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Accounting Principles

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Accounting Principles

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Foreword

THE lives of most of us are affected directly or indirectly by our complex business structure. Yet relatively few of us have much knowledge of accounting, which has been called the language of business. It is a language which *must* be understood by those engaged to do accounting work. It *should* be understood by business executives who must formulate policies and make decisions affecting business conditions or operations. Benjamin Franklin has been quoted as saying, "A man's judgment is no better than his information." This is especially true as applied to business managers. Accounting is often their main source of information.

A knowledge of the general principles of accounting can be valuable to anyone who owns property, works for wages, or spends money. Accounting has such a variety of uses by so many people that authors of accounting texts disagree considerably as to the breadth and depth of subject matter which should be covered in an introductory accounting course. Basing this text upon their long and successful experience in teaching introductory accounting, Professors Braden and Allyn have presented all the subject matter necessary to an understanding of basic accounting theory and techniques. The material has been classroom tested with a great variety of students, including young full-time day students; adult, part-time evening students; and accounting and non-accounting majors. This text has met the needs of all these classes of students extremely well.

In presenting the accounting cycle the authors have adopted a simple step-by-step approach through which they have emphasized fundamentals. Reasoning and analysis are stressed rather than memorization. The uses of accounting are emphasized as well as the accounting techniques. The authors have presented the subject topics in logical sequence. Following a clear discussion of the accounting cycle, they present a detailed treatment of business papers, accounting records and controls, and accounting reports and statements. They have related the evolution in the growth of business records to the growth and expansion of business itself, from a simple journal and ledger to the multicolumn special journals, control accounts, and subsidiary ledgers.

The authors wisely deferred an extended discussion of basic account-

ing concepts and principles to the second half of the text. Students better understand the philosophy of accounting after they have gained some knowledge of accounting forms, records, statements, and reports. They can more fully understand the uses and applications of accounting after they have learned some of the techniques of record-keeping.

The text is replete with practical illustrations. The explanations and recommended procedures are based upon the best currently accepted practice. The discussion questions and problems are closely coordinated with the related chapters in the text. They are designed to test the student's analytical reasoning ability rather than his memory.

This text is strongly recommended for use in a two-semester or a two-quarter course in introductory accounting. It is equally suitable for either accounting majors or nonaccounting majors. Fortunately, the authors have been able to explain the uses of accounting as a tool of management without sacrificing explanation of the basic techniques through which the tool is developed.

Thomas M. Dickerson
Department of Accounting
Western Reserve University

Preface

THIS book was written to enable students to understand the uses and purposes of accounting as well as its principles and techniques.

In recent years, educators in business education have stressed the uses and purposes of accounting. Professors of accounting know, however, that a student must learn the basic principles and techniques if he is to appreciate and understand properly the purposes of accounting. The authors believe that *all* accounting students should study and practice (through problem solving) the principles and techniques of the accounting cycle *before* considering the uses and the purposes of accounting. Some of the uses and purposes become apparent to the student as he assimilates the fundamentals. Furthermore, as he studies the steps involved in the cycle, he acquires an appreciation of the symmetry and logic to be found in the orderly processes of accounting. The nonspecialist, who is taking a year of accounting for general enlightenment, gains a much greater appreciation and understanding of the uses and purposes of accounting if he learns first the principles and techniques of the cycle.

The text, accordingly, first presents the accounting cyle. A simplified step-by-step approach is used for each new subject to give the reader ease of comprehension, to increase his confidence in his ability, and to maintain his interest. Details concerning business papers, accounting controls, basic concepts, the uses of accounting, and its purposes are presented after the techniques of the accounting cycle have been covered.

The presentation throughout the book is analytical. Reasoning and analysis are stressed rather than memorization. This emphasis is also applicable to the questions and problems that have been carefully integrated with the text.

Illustrations are used profusely. Many of the comparative illustrations have been tested in the classroom. Relationships particularly are stressed, such as those between: (1) the net income and the net assets, (2) the income statement and the balance sheet, (3) the statements and the worksheet, (4) the worksheet and the accounts, and (5) various accounts.

The importance of internal accounting control to the effective management of an enterprise is considered. Accounting is placed in its proper

perspective in the management spectrum. Inasmuch as accounting is not an end in itself but a means to more effective management, its uses to management are explained as accounting procedures are described. Accounting, like production, marketing, finance, and administration, is a function of an integrated enterprise. Although accounting has its own techniques and its own body of theory, it cannot properly be studied without considering its relationships to the other functions that answer to management.

The authors believe that the use of year dates rather than 19— is desirable for many of the illustrations. Several of the extended illustrations cover two or three years, and the use of year dates in these cases is very important. The use of 1960 as a base year has permitted the extended illustrations to bear year dates that extend only to the date of publication (January, 1963). The year 1960, therefore, has been used as the base year for most illustrations.

Supplementary publications that accompany the text include:

Working papers for Chapters 1–14 and Chapters 15–28,
Practice Set 1, Parts A and B,
Practice Set 2, Parts A and B,
Solutions Manual, Chapters 1–14 and Chapters 15–28.

The authors are deeply indebted to Professor T. M. Dickerson, former Chairman of the Accounting Department of Western Reserve University, who reviewed the entire manuscript and wrote the Foreword.

They also express their appreciation for encouragement, constructive criticism, and other assistance to the following persons: Dr. Clarence H. Cramer, Dean of Adelbert College of Western Reserve University; Professor George O'Connell, C.P.A., of Canisius College; Mr. Paul Stuart, Vice-President and General Manager of R. O. Hull and Company, Inc.; Mr. John Zeeb, Investment Counsellor; Mr. Gerald Wisz, Fellow in the Accounting Department of Johns Hopkins University; Mrs. Eleanor Simsic; Mrs. Betty Braden; Susan Elaine Allyn; David R. Allyn; and Christopher L. Braden.

ANDREW D. BRADEN
ROBERT G. ALLYN

January, 1963

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1

The Accounting Equation

ACCOUNTING is concerned with the recording of business transactions in such a manner that the results of the transactions may be reviewed and interpreted. Accounting gives financial information about an enterprise to its management, its owners, its creditors, and others. Many accounting procedures are involved in compiling this financial information. To understand these procedures, the accounting equation must first be comprehended.

The Accounting Equation

The operation of a business enterprise requires the use of property. The various items of property that an enterprise possesses are called its assets. All property is owned. The value of the property equals the value of the ownership. This may be set into equation form:

ASSETS = OWNERSHIP

The amounts owed by an enterprise are known as its liabilities. The parties owed, or creditors, have an equity in the assets. The remaining equity in the assets belongs to the owners of the business. Thus, ownership in the above equation consists of two factors, and the equation becomes

ASSETS = LIABILITIES + OWNERS' EQUITY

The equity of the owners is referred to by various other names such as net worth, proprietorship, and capital. Hereafter, owners' equity will usually be designated by the term *capital.* Thus, the equation will read:

ASSETS = LIABILITIES + CAPITAL

This is the fundamental accounting equation. The recording of all transactions is based on this simple equation. The totals of the two sides of the equation are always equal.

Assets Assets, or property owned, consist of many things such as cash, accounts receivable, notes receivable, inventory, land, buildings, and equipment.

Liabilities Some of the liabilities, or debts, which may arise are accounts payable, notes payable, salaries and wages payable, taxes payable, and bonds payable.

Capital The recording of the owners' equity will vary with the form of the business unit. The study of the differences among the three common forms of business enterprise will come later in the text. The *individual proprietorship* will be used in the first illustrations. This will leave the *partnership* and the *corporation* for later consideration.

Economic Units

Accounting is essential to the effective functioning of an organization. Accounting records are maintained for nonprofit organizations such as cities, hospitals, libraries, and churches, as well as for business enterprises. Each economic unit has its own transactions and its own accounting records. If a person operates both a shoe store and a hardware store, separate records are kept for each. Records may also be kept of personal affairs, but these records are separate from the records of the business units. This text is concerned chiefly with accounting principles as they apply to business enterprises. Similar principles apply to each of the other economic units whether they be political, social, or personal.

Transactions

The recording of each business transaction causes some changes in assets, liabilities, or capital. The effects of transactions on the accounting equation for a business unit are indicated in the following paragraphs.

Investment Al Ack decided to operate a real estate sales office. Ack invested $1,000 in the venture. The accounting equation of the business at this point would appear as follows:

ASSETS	=	LIABILITIES	+	CAPITAL
Cash	=			Ack, Capital
$1,000	=			$1,000

Since this is an individual proprietorship, the capital is the equity of one person in the assets and it may be referred to as *Ack, Capital.*

Purchase of Equipment for Cash Ack leased suitable office space. He then purchased a desk, a table, and some chairs, paying $600 for the equipment. This exchange is recorded below as Transaction 1, and the effect on the equation is:

	ASSETS		= LIABILITIES +	CAPITAL
	Cash	+ Equipment =		Ack, Capital
Previous balances	$1,000	=		$1,000
Transaction (1)	−600	+$600		
Balances	$ 400	+ $600 =		$1,000

You will notice that the right-hand side of the equation is unaffected and that the assets still total $1,000. Many transactions affect one side of the equation only and, therefore, do not change the total of either side. The particular assets owned have changed, however, and it is necessary to identify each asset by name.

Purchase of Equipment on Account Ack then purchased a typewriter and a filing cabinet for $200 on a charge basis. The transaction (2) is entered below:

	ASSETS		=	LIABILITIES	+	CAPITAL
	Cash	+ Equipment	=	Accounts Payable	+	Ack, Capital
Previous balances	$400	+ $600	=			$1,000
Transaction (2)		+200		+$200		
Balances	$400	+ $800	=	$200	+	$1,000

The total assets have increased to $1,200 and, therefore, the total "ownership" has increased to $1,200. This increased "ownership" is the equity of the creditor from whom the typewriter and filing cabinet were purchased, and the business now has a liability of $200. The capital, or owner's equity, has not increased despite the increase in assets.

Payment of a Liability The liability to the equipment company is known as an account payable. Ack paid one-half of this account a few days later. The payment is shown as Transaction 3 below:

	ASSETS		=	LIABILITIES	+	CAPITAL
	Cash	+ Equipment	=	Accounts Payable	+	Ack, Capital
Previous balances	$400	+ $800	=	$200	+	$1,000
Transaction (3)	−100			−100		
Balances	$300	+ $800	=	$100	+	$1,000

The decrease in assets is accompanied by a decrease in liabilities, and capital remains unchanged.

Net Assets

The fundamental accounting equation may be stated in the following form:

ASSETS — LIABILITIES = CAPITAL

It is easy to see that the total assets minus the equity of outsiders equals the owner's equity. *Net assets* are the total assets minus the liabilities. Thus, capital in the above equation may be replaced by net assets:

ASSETS — LIABILITIES = NET ASSETS

In other words:

NET ASSETS = CAPITAL

The reader may observe by reference to the three transactions which have been illustrated that capital (owner's equity) did not change and, therefore, the amount of the net assets did not change. The business started with the initial investment of $1,000. Thus, at the beginning, net assets and capital were $1,000 each. The net assets and the capital are still $1,000 each. There are many transactions that neither increase nor decrease the net assets; the capital, therefore, remains unchanged. On the other hand, many transactions cause a change in the amount of the net assets and, therefore, a change in the amount of the capital.

Income Earned and Collected One of the primary purposes of operating a business enterprise is to earn a profit. If the business is to make a profit, the income must exceed the expenses. Ack hopes to earn income by selling real estate for his clients. For these services he charges commissions. Let us assume that Ack receives cash of $350 as his commission for the sale of some lots. The effect of this transaction (4) on the accounting equation is:

	ASSETS			=	LIABILITIES	+	CAPITAL
	Cash	+	Equipment	=	Accounts Payable	+	Ack, Capital
Previous balances	$300	+	$800	=	$100	+	$1,000
Transaction (4)	+350						+350
Balances	$650	+	$800	=	$100	+	$1,350

The assets are increased $350 by this transaction while the liabilities remain unchanged. Capital is thus increased $350. A review of the illustration shows that *net assets* increased $350. Income causes net assets and, accordingly, capital to increase.

Income Earned But Not Collected Ack has performed all of his services in regard to the sale of a residence. He has rendered the bill for his services and the client has agreed to pay in ten days. Transaction 5 is recorded at the time the bill is sent to the client as follows:

	ASSETS			=	LIABILITIES	+	CAPITAL
	Cash	+ Accounts Receivable	+ Equipment	=	Accounts Payable	+	Ack, Capital
Previous balances	$650	+ −0−	+ $800	=	$100	+	$1,350
Transaction (5)		+$450					+450
Balances	$650	+ $450	+ $800	=	$100	+	$1,800

The account receivable from a client is an asset. The assets have increased, while the liabilities have not changed. Thus, net assets and capital have increased. Income always causes net assets and capital to increase. You should notice that Transaction 4 has the same effect upon the accounting equation as Transaction 5. The difference is that the former transaction causes assets to increase in the form of cash, while the latter transaction causes assets to increase in the form of an account receivable. In each case, income is recorded.

Collection of a Receivable Ten days later the client paid $450 to Ack. This transaction (6) affects the accounting equation as follows:

	ASSETS			=	LIABILITIES	+	CAPITAL
	Cash	+ Accounts Receivable	+ Equipment	=	Accounts Payable	+	Ack, Capital
Previous balances	$ 650	+ $450	+ $800	=	$100	+	$1,800
Transaction (6)	+450	−450					
Balances	$1,100	+ −0−	+ $800	=	$100	+	$1,800

There is no change in total assets, no change in liabilities, and no change in capital. The collection of an account receivable merely changes the form of an asset from a receivable to cash. Income is not recorded at the time an account receivable is collected.

Payment of Expenses Ack paid rent and other expenses totaling $500. This transaction (7) affects the accounting equation as shown below:

	ASSETS		=	LIABILITIES	+	CAPITAL
	Cash	+ Equipment	=	Accounts Payable	+	Ack, Capital
Previous balances	$1,100	+ $800	=	$100	+	$1,800
Transaction (7)	−500					−500
Balances	$ 600	+ $800	=	$100	+	$1,300

The assets were decreased $500 by this transaction while the liabilities were not affected. So, net assets and capital were decreased $500 each. Thus, expenses cause capital to decrease. The income minus the expenses is referred to as *net income.* Net income resulting from the seven transactions above is $300. This consists of income of $800 ($350 and $450) minus expenses of $500. The net assets and the capital have increased $300 since the original investment by Ack.

Changes in Capital

The business started with net assets or capital of $1,000. The net assets or capital now total $1,300. The increase is due solely to the net income of $300. If expenses had exceeded income, the business would have incurred a *net loss.* A net loss will decrease net assets and capital in the same manner that net income causes the owner's equity to increase.

Additional Investment Another factor that will cause net worth (capital), and net assets, to increase is additional investments by the proprietor. Let us assume that Ack now invests an additional $400 in the business. The accounting equation is changed by this transaction (8) as indicated below:

	ASSETS			=	LIABILITIES	+	CAPITAL
	Cash	+	Equipment	=	Accounts Payable	+	Ack, Capital
Previous balances	$ 600	+	$800	=	$100	+	$1,300
Transaction (8)	+400						+400
Balances	$1,000	+	$800	=	$100	+	$1,700

The net assets are increased $400 by this transaction; therefore, capital increases $400. The owner has increased his equity in the assets by $400. However, this is not income or profit. Net income is the amount which the business *earns;* it does not include investments by the owner. Reference to the above illustrations shows that capital and net assets have increased from the original investment of $1,000 to $1,700. This increase of $700 was caused by two factors: (1) net income, and (2) additional investment. If the additional investment of $400 is subtracted from the total increase of $700, the net income of $300 has been computed.

Withdrawals There is one other common factor that will cause capital to change. This is the withdrawals made by the proprietor. Let us assume that Ack withdrew $100 from the business for personal use. The figures in the equation change as indicated for this transaction (9):

	ASSETS			=	LIABILITIES	+	CAPITAL
	Cash	+	Equipment	=	Accounts Payable	+	Ack, Capital
Previous balances	$1,000	+	$800	=	$100	+	$1,700
Transaction (9)	−100						−100
Balances	$ 900	+	$800	=	$100	+	$1,600

The net assets and the capital have decreased $100. If the owner withdraws funds for personal use, his equity in the business decreases. This withdrawal is not a loss or an expense. It does not affect the amount of net income which the business reports.

Factors Affecting Capital There are four factors which affect capital or owner's equity. They may be summarized as follows:

Factors Causing Capital to Increase

1. Net income
2. Investments by the owner

Factors Causing Capital to Decrease

1. Net loss
2. Withdrawals by the owner

It has been observed that a change in the amount of capital causes a like change in the amount of net assets, since these two are always equal.

Summary of Transactions

The following summary shows the effect of each of the nine transactions upon the accounting equation and the resulting balances after each transaction.

	ASSETS			=	LIABILITIES	+	CAPITAL
Transactions	Cash	+ Accounts Receivable	+ Equipment	=	Accounts Payable	+	Ack, Capital
Original investment—$1,000	$1,000			=			$1,000
(1) Purchase of equipment for cash —$600	−600		+$600				
Balances	$ 400		+ $600	=			$1,000
(2) Purchase of equipment on account—$200			+200		+$200		
Balances	$ 400		+ $800	=	$200	+	$1,000
(3) Payment of a liability—$100	−100				−100		
Balances	$ 300		+ $800	=	$100	+	$1,000
(4) Income earned and collected—$350	+350						+350
Balances	$ 650		+ $800	=	$100	+	$1,350
(5) Income earned but not collected —$450		+$450					+450
Balances	$ 650	+ $450	+ $800	=	$100	+	$1,800
(6) Collection of a receivable—$450	+450	−450					
Balances	$1,100	+ −0−	+ $800	=	$100	+	$1,800
(7) Payment of expenses—$500	−500						−500
Balances	$ 600	+ −0−	+ $800	=	$100	+	$1,300
(8) Additional investment by owner —$400	+400						+400
Balances	$1,000	+ −0−	+ $800	=	$100	+	$1,700
(9) Withdrawal by owner—$100	−100						−100
Balances	$ 900	+ −0−	+ $800	=	$100	+	$1,600

The amount of the capital, or net assets, is now $1,600. The business started with an investment in the amount of $1,000. Assume that the original investment was made at the end of December and that the other transactions occurred in January. What has caused the change of $600 in Ack's capital during January? The factors affecting Ack's equity are set forth in a statement. A statement of Al Ack's capital might appear as follows:

AL ACK REALTY SALES
Statement of Capital
For the Month Ended January 31, 1960

Balance, January 1, 1960	$1,000
Investment during January	400
Net income for January	300
Total	$1,700
Withdrawals during January	100
Balance, January 31, 1960	$1,600

The factors affecting Ack's capital as shown in the above statement were obtained from the Ack, Capital column of the accounting equation illustration.

Computing Net Income

If the change in the amount of capital (or net assets) from the beginning to the end of a period is known, the net income can be easily computed, assuming that information as to additional investments and withdrawals is available. This is true because the changes in capital (or net assets) are caused by: (1) net income (or net loss), (2) additional investments, and (3) withdrawals. For Al Ack Realty Sales this computation could be made as follows:

Net assets, January 31 (end of period)	$1,600
Net assets, January 1 (beginning of period)	1,000
Increase in net assets (or capital)	$ 600
Add withdrawals	100
Total	$ 700
Deduct additional investments	400
Net income	$ 300

The withdrawals during the period are added in the above computation because they reduced the net assets (or capital) but they do not

affect net income. The additional investments during the period are deducted because they increased the net assets but they do not affect net income.

A second method of computing the net income (or net loss) is shown below:

Net assets, January 1 (beginning of period)		$1,000
Net additional investment:		
Additional investment	$400	
Withdrawals	100	300
Net assets, January 31 (end of period) without consideration of net income		$1,300
Net assets, January 31 (actual amount)		1,600
Net income for the period		$ 300

The amount of the net assets (or capital) at the end of the period would have been $1,300 if there had been no net income or net loss during the period.

The first method of computing the net income that is illustrated above determines the change in net assets and then eliminates the effect of the additional investments and the withdrawals. The second method adjusts the beginning balance of capital (net assets) for the net additional investment and then compares the result with the ending balance of capital (actual amount). Another method determines what the amount of net assets would be at the end of the period if there had been no additional investments and no withdrawals and then compares this amount with the beginning balance of net assets. This method is illustrated below:

Net assets, January 31 (end of period)		$1,600
Net additional investment:		
Additional investment	$400	
Withdrawals	100	300
Net assets, January 31, excluding net additional investment		$1,300
Net assets, January 1		1,000
Net income for the period		$ 300

The Balance Sheet

Periodically, the accountant prepares a statement of the financial condition of the business. Such a statement is known as a *balance sheet.* A statement of capital, which has been illustrated, is usually prepared at the same time. The balance sheet is merely the fundamental accounting

equation arranged in a different form. The balance sheet of Al Ack Realty Sales as of January 31, 1960, is set forth below:

AL ACK REALTY SALES
Balance Sheet
As of January 31, 1960

ASSETS		LIABILITIES AND CAPITAL	
Cash	$ 900	Accounts payable	$ 100
Equipment	800	Al Ack, Capital	1,600
	$1,700		$1,700

The balance sheet is a statement of financial condition at a *certain date.* The statement of capital indicates items affecting capital during a *period* of time. You will observe this difference in the dating of the two statements that have been illustrated.

The Income Statement

The balance sheet reflects the results of all operations, including net income, to the date of the statement. The statement of capital shows the amount of the net income for the period covered by the statement. However, neither of these statements shows *how* the net income was earned. A statement showing the various items of income and expense is very important. Such a statement is referred to as an *income statement,* a *statement of income and expense,* or a *statement of profit and loss.*

An income statement for Al Ack Realty Sales for the month of January, 1960, might appear as follows:

AL ACK REALTY SALES
Income Statement
For the Month of January, 1960

Commissions earned	$800
Expenses	500
Net Income	$300

The income statement, like the statement of capital, is for a *period* of time. The period of time for which these financial statements are prepared is known as a *fiscal period.* It is very important that the length of the period be indicated. If an enterprise earned $300 a month for three months, an income statement for one month would show net income of $300, while a similar statement for the three months would show net income of $900.

Fiscal Year The regular twelve-month fiscal period of a business is known as the *fiscal year.* Fiscal years ending December 31 are referred to as calendar fiscal years. Calendar fiscal years are very common, but a business may have a regular fiscal year which ends at the end of any month. Financial statements are always prepared at the end of a fiscal year. Such statements may be prepared monthly, quarterly, or for some other fiscal period.

Income and Expense Records An income statement is usually prepared each time a balance sheet and a statement of capital are made. The method of recording should be such that this statement of income and expense can be readily prepared. To achieve this, all income and expense elements are recorded by specific name rather than by placing them directly under the Al Ack, Capital heading. The capital as recorded by this procedure is contrasted with the method previously illustrated, as follows:

	AS PREVIOUSLY ILLUSTRATED	AS ACTUALLY RECORDED		
	CAPITAL	CAPITAL		
	Ack, Capital	Ack, Capital	Commissions Earned	Expenses
Original investment	$1,000	$1,000		
Income earned and collected	+350		+$350	
Income earned, to be collected	+450		+450	
Payment of expenses	−500			+$500
Additional investment	+400	+400		
Withdrawals	−100	−100		
Balances	$1,600	$1,300	$800	$500

The commissions earned ($800) minus the expenses ($500) equals the net income ($300). It is now a simple matter to prepare the income statement. At the end of each fiscal year the income and expense figures are transferred to capital. Thus, Ack, Capital will increase by $300 from $1,300 to $1,600 at the time these transfers are made. So, the operation of the fundamental accounting equation does not change, but income and expense factors are recorded separately. It should be kept in mind that income and expense items are really part of capital and that an increase in expenses means a decrease in net income. The separate recording of income and expense items does not change the income statement, the balance sheet, or the statement of capital.

The Account

An enterprise may have several sources of income and it usually has a great many different expenses. There are many different assets and usually many different liabilities. Since there are so many different items to record, it is obvious that recording in equation *form* as illustrated might become very cumbersome. Although all transactions recorded are based upon the fundamental accounting equation, the equation *form* is not used to record these transactions. Each item requiring a separate recording is entered in an *account*. The study of the account will be considered in detail in Chapter 2. It should be kept in mind that, regardless of the form used for recording transactions, all recording follows the fundamental accounting equation.

QUESTIONS

1. What are the three common forms of business organization?
2. If the same person is the owner of a grocery store and a shoe store, should separate accounting records be maintained for each enterprise?
3. Define the following terms: (a) assets, (b) liabilities, and (c) capital.
4. What is the fundamental accounting equation?
5. Which of the following are equations?
   (a) Assets = Capital + Liabilities.
   (b) Capital = Assets + Liabilities.
   (c) Liabilities = Assets − Capital.
   (d) Assets − Liabilities = Capital.
   (e) Liabilities = Capital − Assets.
   (f) Capital = Net Assets.
   (g) Capital + Liabilities − Assets = Zero.
   (h) Assets − Liabilities − Capital = Zero.
6. Indicate increases and decreases in total assets, total liabilities, and capital for each of the transactions listed below:
   (a) Investment by owner.
   (b) Withdrawal by owner.
   (c) Purchase of equipment for cash.
   (d) Purchase of equipment on account.
   (e) Collection of an account receivable.
   (f) Payment of an account payable.
   (g) Income earned and collected.
   (h) Income earned, to be collected.
   (i) Payment of expenses.
7. What are the factors that increase capital?
8. What are the factors that decrease capital?
9. What three items appear in the heading of each financial statement?

10. Criticize the statement headings that are shown below:

(a)
AL ACK REALTY SALES
Income Statement
For the Period Ending December 31, 1961

(b)
AL ACK REALTY SALES
Income Statement
As of December 31, 1961

(c)
AL ACK REALTY SALES
Balance Sheet
For the Year Ended December 31, 1961

11. What is a fiscal year?

PROBLEMS

Problem 1-1

The amounts of the assets, liabilities, and capital of an individual enterprise at December 31, 1960, the close of the fiscal year, are shown below:

ASSETS			=	LIABILITIES	+	CAPITAL			
Cash	+ Accounts Receivable	+ Equipment	=	Accounts Payable	+	Al Orr, Capital	+ Service Income	−	Expenses
$400	+ $100	+ $900	=	$300	+	$1,100			

The transactions for January, 1961, are set forth below:

(a) Received $100 from a client in full payment of his account.
(b) Paid $150 of the amount owed to creditors.
(c) Cash received for services performed, $220.
(d) Cash paid for miscellaneous expenses, $175.
(e) Purchased equipment for cash, $60.

Required:

Show the effect of each transaction on the accounting equation using the columnar headings listed above. Identify each transaction by letter, and show the balance of each column after each transaction has been recorded.

Problem 1-2

Compute from the data shown below the net income of each business for the month of January.

	Business A	Business B	Business C	Business D
Net assets, January 1	$6,000	$24,000	$39,000	$17,000
Net assets, January 31	7,500	25,500	38,000	17,200
Investments by owner during January	−0−	1,000	2,000	1,000
Withdrawals by owner during January	1,000	−0−	6,000	700

Problem 1-3

Compute from the data shown below the amount of net income for the year ended December 31, 1960.

	January 1, 1960	December 31, 1960
Assets	$30,000	
Liabilities	13,000	
Capital		$16,500
Withdrawals by owner during the year		$4,000

Problem 1-4

Compute from the data shown below the amount of liabilities and capital at the end of the year.

	January 1, 1960	December 31, 1960
Assets		$45,000
Liabilities	$ 7,000	
Capital	30,000	
Investments by owner during the year		$5,000
Withdrawals by owner during the year		2,000
Net income for the year		3,200

Problem 1-5

Compute from the data shown below the amount of withdrawals by the owner of the business during the year.

	January 1, 1960	December 31, 1960
Assets	$17,000	$18,000
Liabilities	5,000	4,000
Investments by owner during the year		$3,200
Net loss for the year		1,000

Problem 1-6

The balance sheet of Smith Services has been improperly prepared as follows:

SMITH SERVICES
Balance Sheet
March 31, 1960

ASSETS		LIABILITIES AND CAPITAL	
Accounts receivable	$1,600.00	Cash	$1,200.00
Accounts payable	2,000.00	Expenses	900.00
Fees earned	1,500.00	Equipment	1,400.00
		Smith, Capital	1,600.00
	$5,100.00		$5,100.00

Required:

Prepare a corrected balance sheet.

Problem 1-7

The owner of Over Realty Sales completed the following transactions for the business during the month of June, 1960:

(a) Invested $1,500 cash to start the business.
(b) Paid the rent for June, $200.

(c) Purchased a desk, some chairs, and other equipment for cash, $700.
(d) Purchased on account from Easy Equipment Company the following: a safe, $500, a typewriter, $200, and a table, $100.
(e) Billed R. R. Jones, a client, for commission on the sale of some lots, $500. Jones is to pay within 30 days.
(f) Received $1,200 for commission on the sale of a residence.
(g) Billed C. Smith, a client, for commission on the sale of lots, $400. Smith is to pay within 30 days.
(h) Paid $400, on account, to Easy Equipment Company.
(i) Paid $700 for miscellaneous expenses.
(j) Received $500 from R. R. Jones in full of account.
(k) Withdrew $100 cash for personal use.

Required:

(A) Record the transactions in columnar form as shown in the text. Identify each transaction by letter, and show the balance of each column after each transaction has been recorded. Use the following headings:

ASSETS			= LIABILITIES +		CAPITAL		
Cash	+ Accounts Receivable	+ Equipment	= Accounts Payable	+ Al Over, Capital	+ Commissions Earned		− Expenses

(B) Prepare an income statement and a statement of capital for the month. Prepare a balance sheet as of June 30, 1960.

SUPPLEMENTARY PROBLEMS

Problem 1-8

The assets and liabilities of Hurd Secretarial Service as of December 31, 1961, the close of the fiscal year, are as follows:

Cash	$ 600
Accounts receivable	400
Equipment	1,500
Accounts payable	300

The transactions of the enterprise for the month of January, 1962, are listed below:

(a) Paid the amount owed to a creditor, $300.
(b) Paid the rent for January, $60.
(c) Cash received from a debtor in full payment of his account, $400.
(d) Cash received for services performed during January, $300.
(e) Performed services during January for a new client and sent him a bill for $150. The client has promised to pay this amount in February.
(f) Purchased equipment that cost $240. Paid $120 and agreed to pay the balance in February.
(g) Paid for miscellaneous expenses, $280.
(h) Cash withdrawn by Hurd for personal use, $50.

Required:

(A) Record the December 31, 1961, balances and the January, 1962, transactions in columnar form as shown in the text. Identify each transaction by letter and show the balance of each column after each transaction has been recorded.

(B) Prepare an income statement and a statement of capital for the month.

(C) Prepare a balance sheet as of January 31, 1962. (Forms 10, 3, 6)

Problem 1-9

Prepare from the data shown below a statement of capital for the year ended December 31, 1961, for each business. (Form 3)

	Business A	Business B
Assets:		
January 1, 1961	$8,000	$4,000
December 31, 1961	9,000	3,000
Liabilities:		
January 1, 1961	5,000	2,700
December 31, 1961	3,600	2,900
Investments by owner during 1961	1,500	300
Withdrawals by owner during 1961	400	180

Problem 1-10

The balance sheet of Soper Services has been improperly prepared as follows:

SOPER SERVICES
Balance Sheet
For the Year Ended June 30, 1962

ASSETS		LIABILITIES AND CAPITAL	
Soper, Capital	$ 8,400	Accounts payable	$ 1,500
Accounts receivable	3,600	Cash	2,400
Expenses	4,600	Commissions earned	6,700
		Equipment	6,000
	$16,600		$16,600

Required:

Prepare a corrected balance sheet. (Form 6)

Problem 1-11

Compute from the data shown below the amount of liabilities and capital at the beginning of the year. (Form 3)

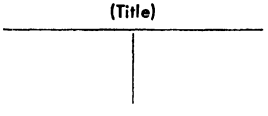
	January 1, 1962	December 31, 1962
Assets	$45,000	
Liabilities		$ 9,000
Capital		31,000
Investments by owner during the year		$4,000
Withdrawals by owner during the year		6,000
Net income for the year		3,400

2

The Accounts

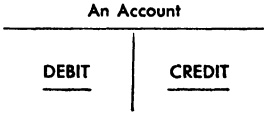
General Ledger

Forms known as *accounts* are used to record the changes that business transactions cause in the fundamental accounting equation. The accounts are bound together to make up a book known as the *general ledger*. Each account ordinarily occupies a full page in the ledger. Various forms of accounts are used but they are basically the same. The skeleton form of the account is referred to as a "T" account. Such an account appears as follows:



There are many accounts in the general ledger. There is a separate account for each kind of asset, each type of liability, and each capital factor. Capital includes all income and expense items; so, there is a separate account for each type of income and for each of the various expenses.

Debits and Credits The left side of *every* account is known as the *debit* side. The right side of *every* account is called the *credit* side.



General Application of Debit and Credit Rules An increase in an asset is recorded as a debit; a decrease in an asset is recorded as a credit.

The rule is just the opposite for all items on the right-hand side of the fundamental accounting equation. Thus, increases in liabilities or capital are recorded as credits and decreases in liabilities or capital are shown by debit entries. The student should first memorize these rules without attempting to justify them. If the rules were exactly the opposite, the system would operate with equal facility.

The application of the rules to the fundamental accounting equation is illustrated below:

ASSETS		LIABILITIES		CAPITAL	
+	−	−	+	−	+
increases	decreases	decreases	increases	decreases	increases
debit	credit	debit	credit	debit	credit

Since income and expense accounts are really a part of capital, the application of the debit or credit rules to these accounts is the same as it would be if the transactions were recorded directly in the capital account, i.e., if it would have increased capital an item is recorded as a credit and if it would have decreased capital an item is recorded as a debit. Income factors increase capital, so all increases in income are credits. Expense items decrease capital; thus all increases in expenses are debits. Reductions in income accounts are, of course, debits, and reductions in expense accounts are credits.

INCOME		EXPENSE	
−	+	+	−
decreases	increases	increases	decreases
debit	credit	debit	credit

Double Entry Bookkeeping

The application of the above rules results in an equality of debits and credits in the recording of every transaction. The recording of transactions in accordance with these rules is known as *double entry* bookkeeping.

Basic Types of Accounts

There are five basic types of accounts:

1. Assets.
2. Liabilities.
3. Capital or Owner's Equity.
4. Income.
5. Expense.

Because of their temporary nature and because they are actually part

of capital, income and expense accounts are referred to as *nominal* accounts whereas balance sheet accounts are called *real* accounts.

In the recording of a transaction, the accountant should:

1. Determine what accounts are affected.
2. Determine if the accounts involved should reflect increases or decreases.
3. Classify the accounts as to basic types as indicated above.
4. Apply the rules as to debits and credits that are discussed and illustrated above.

The proper application of these procedures will result in the correct recording of the transaction. The fact that each transaction must have an equality of debits and credits serves as a check on the answer which has been ascertained.

Specific Application of Debit and Credit Rules

The transactions given in Chapter 1 are repeated individually below, and the procedure for recording each transaction is illustrated.

Original Investment Al Ack invested $1,000 in a real estate sales business. Two accounts are affected: (1) Cash, and (2) Ack, Capital. The accounts are opened in the general ledger by simply writing the titles above the account forms as shown:

Cash	Ack, Capital

The transaction resulted in an increase in cash and an increase in capital. Cash is an asset account. All increases in assets are recorded as debits. The Cash account is debited.

Cash
1,000

Ack, Capital is a capital (or owner's equity) account. All increases in capital are recorded as credits. The Ack, Capital account is credited.

Ack, Capital
1,000

A review of the recording shows the equality of debit and credit in the transaction.

Purchase of Equipment for Cash—$600 (1) What accounts are affected by this transaction? Equipment (an asset) and Cash (an asset) are affected. The amount of equipment increases and the Equipment account is, therefore, debited. The amount of cash decreases and the Cash account is, therefore, credited. This is illustrated below, showing all accounts that are in the general ledger:

Cash			Equipment			Ack, Capital	
1,000	(1)	600	(1)	600			1,000

Purchase of Equipment on Account—$200 (2) The accounts involved are the asset Equipment and the liability Accounts Payable. The asset increase is recorded as a debit to the Equipment account and the liability increase is recorded as a credit to the Accounts Payable account. The debit amount equals the credit amount as is the case in all accounting entries.

Cash			Accounts Payable		
1,000	(1)	600		(2)	200

Equipment		Ack, Capital	
(1) 600			1,000
(2) 200			

Payment of a Liability—$100 (3) One-half of the amount owed for equipment is paid. What accounts are involved? The liability Accounts Payable is decreased and it is, therefore, debited. The asset Cash is decreased and it is, therefore, credited. Again, there is an equality of debits and credits in recording the transaction.

Cash			Accounts Payable				
1,000	(1)	600	(3)	100		(2)	200
	(3)	100					

Equipment		Ack, Capital	
(1) 600			1,000
(2) 200			

Income Earned and Collected—$350 (4) The accounts affected are the asset Cash and the owner's equity Ack, Capital. Cash increases and

the account is debited. Ack, Capital increases and the account would be credited except that income and expense items, although a part of capital, are recorded temporarily in income and expense accounts. Thus, the income account Commissions Earned increases and it is credited.

Cash			
	1,000	(1)	600
(4)	350	(3)	100

Accounts Payable			
(3)	100	(2)	200

Equipment	
(1)	600
(2)	200

Ack, Capital	
	1,000

Commissions Earned	
	(4) 350

Income Earned But Not Collected—$450 (5) Ack has performed all of his services in connection with a sale of real estate and he has rendered the bill. The income has been *earned* and the business has an account receivable from the client. Such a receivable is an asset and, since it has increased, the Accounts Receivable account is debited. As in the previous transaction, income has increased and the Commissions Earned account is credited to show this fact.

Cash			
	1,000	(1)	600
(4)	350	(3)	100

Accounts Payable			
(3)	100	(2)	200

Accounts Receivable	
(5)	450

Ack, Capital	
	1,000

Equipment	
(1)	600
(2)	200

Commissions Earned	
	(4) 350
	(5) 450

Collection of an Account Receivable—$450 (6) The accounts involved are Cash and Accounts Receivable. They are both asset accounts. Cash increases and the account is debited. Accounts Receivable decreases and the account is credited.

Cash			
	1,000	(1)	600
(4)	350	(3)	100
(6)	450		

Accounts Payable			
(3)	100	(2)	200

Accounts Receivable			
(5)	450	(6)	450

Ack, Capital			
			1,000

Equipment			
(1)	600		
(2)	200		

Commissions Earned			
		(4)	350
		(5)	450

Payment of Expenses—$500 (7) The accounts affected are Expenses and Cash. Each type of expense is recorded in a separate account but since all expense accounts follow the same rules as to debits and credits they will be, for the present illustration, recorded in one account. Increases in expenses are recorded as debits (they represent decreases in capital). Decreases in assets are recorded as credits—the Cash account is credited.

Cash			
	1,000	(1)	600
(4)	350	(3)	100
(6)	450	(7)	500

Accounts Payable			
(3)	100	(2)	200

Accounts Receivable			
(5)	450	(6)	450

Ack, Capital			
			1,000

Equipment			
(1)	600		
(2)	200		

Commissions Earned			
		(4)	350
		(5)	450

Expenses			
(7)	500		

Additional Investment by Owner—$400 (8) The Cash account and the Ack, Capital account must both reflect increases. Increases in assets are debits—the Cash account is debited. Increases in capital are credits —the Ack, Capital account is credited.

Cash			
	1,000	(1)	600
(4)	350	(3)	100
(6)	450	(7)	500
(8)	400		

Accounts Payable			
(3)	100	(2)	200

Accounts Receivable			
(5)	450	(6)	450

Ack, Capital			
			1,000
		(8)	400

Equipment			
(1)	600		
(2)	200		

Commissions Earned			
		(4)	350
		(5)	450

Expenses			
(7)	500		

Withdrawal by Owner—$100 (9) The accounts affected are Ack, Capital and Cash. Ack, Capital is debited to reflect the decrease in capital. Cash is credited to reflect the decrease in cash.

Cash			
	1,000	(1)	600
(4)	350	(3)	100
(6)	450	(7)	500
(8)	400	(9)	100
	2,200		*1,300*

Accounts Payable			
(3)	100	(2)	200

Accounts Receivable			
(5)	450	(6)	450

Ack, Capital			
(9)	100		1,000
		(8)	400
			1,400

Equipment			
(1)	600		
(2)	200		
	800		

Commissions Earned			
		(4)	350
		(5)	450
			800

Expenses			
(7)	500		

Trial Balance of Totals

All transactions through January 31, 1960, have been recorded. An equality of debits and credits was recorded in regard to each transaction. Therefore, the total debit entries in the general ledger will equal the total credit entries. A list of all accounts in the general ledger with their total debits and credits is called a trial balance of totals. To prepare this list, the figures in each account are footed (added). The totals may be placed in smaller pencil figures at the bottom of each column as illustrated above. The transaction entries, if hand recorded, are entered in ink. The trial balance can now be prepared as follows:

	Dr.	Cr.
Cash	$2,200	$1,300
Accounts receivable	450	450
Equipment	800	
Accounts payable	100	200
Ack, Capital	100	1,400
Commissions earned		800
Expenses	500	
Totals	$4,150	$4,150

Dr. and Cr. are common abbreviations for debit and credit, respectively.

Balances of Accounts

The purposes of the trial balance are to prove the equality of debits and credits in the ledger and to summarize all accounts in the ledger to facilitate the preparation of financial statements. However, the financial statements do not show total debits and credits for each account. Such statements show only balances of accounts. Thus, only balances are used when a trial balance is prepared.

The balance of any account is determined by deducting the smaller total from the larger total after the two sides of the account have been footed. The balance of the Cash account is calculated as follows:

Total debits	$2,200
Total credits	1,300
Debit balance	$ 900

An account has a debit balance if the total debits exceed the total credits; it has a credit balance if the total credits exceed the total debits. The balance of each account in the general ledger may be shown as follows:

Cash

	1,000		(1)	600
(4)	350		(3)	100
(6)	450		(7)	500
(8)	400		(9)	100
900	*2,200*			*1,300*

Accounts Payable

(3)	100		*100*	(2)	200

Accounts Receivable

-0-	(5)	450		(6)	450

Ack, Capital

(9)	100				1,000
				(8)	400
			1,300		*1,400*

Equipment

	(1)	600			
	(2)	200			
800		*800*			

Commissions Earned

				(4)	350
				(5)	450
			800		*800*

Expenses

500	(7)	500			

The Trial Balance

The trial balance (or balances) can now be prepared:

AL ACK REALTY SALES
Trial Balance
January 31, 1960

	Dr.	Cr.
Cash	$ 900	
Equipment	800	
Accounts payable		$ 100
Ack, Capital		1,300
Commissions earned		800
Expenses	500	
Totals	$2,200	$2,200

An account which does not have a balance (Accounts Receivable above) need not be listed in the trial balance. The total debits still equal the total credits. This is true because in arriving at the balance of any account the smaller total is actually deducted from both sides of the account. The Cash account is shown below to illustrate:

	Dr.	Cr.
Cash (totals)	$2,200	$1,300
Cash (balance)	900	
Reduction in each side	$1,300	$1,300

Statements Prepared from the Trial Balance

The income statement and the balance sheet can be readily prepared from the above trial balance. The $1,300 balance of the Ack, Capital account may be analyzed by reference to that account in the general ledger. The beginning balance, the additional investment, and the withdrawals can be determined. The statement of capital may then be prepared. The three statements follow:

AL ACK REALTY SALES
Income Statement
For the Month of January, 1960

Commissions earned	$800
Expenses	500
Net Income	$300

AL ACK REALTY SALES
Statement of Capital
For the Month of January, 1960

Balance, January 1, 1960	$1,000
Investment during January	400
Net income for January	300
Total	$1,700
Withdrawals during January	100
Balance, January 31, 1960	$1,600

AL ACK REALTY SALES
Balance Sheet
As of January 31, 1960

ASSETS	
Cash	$ 900
Equipment	800
Total Assets	$1,700
LIABILITIES AND CAPITAL	
Accounts payable	$ 100
Al Ack, Capital	1,600
Total Liabilities and Capital	$1,700

The arrangement of the balance sheet shown above is called the *report* form. The arrangement used in preparing the same statement

in Chapter 1 is known as the *account* form. You will notice that the information accumulated and the statements prepared are, otherwise, exactly the same as illustrated in Chapter 1. Remember that the accounts reflect the fundamental accounting equation.

Trial Balance Net Income

If the balance sheet accounts only are listed in a trial balance, the totals will not balance. They will be out of balance by the amount of the net income because the factors making up net income have been recorded (temporarily) in income and expense accounts. If the balance sheet accounts are relisted from the above trial balance, the total debit balances will exceed the total credit balances by $300—the net income.

	Dr.	Cr.
Cash	$ 900	
Equipment	800	
Accounts payable		$ 100
Ack, Capital		1,300
Totals	$1,700	$1,400
Subtract smaller from larger total	1,400	
Difference—equals net income	$ 300	

The remainder of the trial balance if listed would appear as follows:

	Dr.	Cr.
Commissions earned		$ 800
Expenses	$ 500	
Totals	$ 500	$ 800
Subtract smaller from larger total		500
Difference—equals net income		$ 300

If a business has realized net income during a period, the credits in the income statement accounts will exceed the debits by the amount of the net income *and* the debits in the balance sheet accounts will exceed the credits by this same amount—the net income. If the debits in the income statement accounts exceed the credit balances, a net loss has been incurred in the amount of the excess and the credit balances of the balance sheet accounts will exceed the debit balances by the amount of the net loss.

The total of all the debit balances equals the total of all of the credit balances in a trial balance. Therefore, if there is an excess of credits (net income) in the income statement account balances, there must be an excess of debits of the same amount in the balance sheet account

balances; and if there is an excess of debits (net loss) in the income statement account balances, there must be an excess of credits of the same amount in the balance sheet account balances.

Closing the Books

At the end of each fiscal *year* the books are closed. The fiscal year may end at the close of any month. If Al Ack Realty Sales decides to use January 31 as a fiscal year end, the books would be closed as of that date each year. The process of closing the books involves the transferring of all income statement account balances to a summary account. This summary account may be entitled Income Summary, Income and Expense Summary, or Profit and Loss Summary.

The resulting balance of the summary account will be the net income (or net loss) for the fiscal year. This balance is transferred to the capital account. It should be borne in mind that all income and expense accounts are part of capital and that items affecting net income are recorded in separate accounts during the year to facilitate statement preparation and to make readily available information in regard to the various elements of income and expense.

All credit balances in income statement accounts become credits in the summary account. All debit balances in income statement accounts become debits in the summary account. In the transferring of these account balances, as in the recording of transactions, there must be an equality of debits and credits. When an account has been closed, it is said to be *in balance.* This means that the total debits in the account equal the total credits—the account has no balance. To close an account with a credit balance, the account must be debited. To close an account with a debit balance, the account must be credited. The Commissions Earned account is shown below:

Commissions Earned

		(4)	350
		(5)	450
			800

The process of closing this account includes a debit to Commissions Earned to close that account and a credit to Income Summary to transfer the balance to the summary account. In the illustrations below, closing entries are indicated by (C).

Commissions Earned

(C)	800		(4)	350	
			(5)	450	
		-0-		*800*	

Income Summary

			800	(C)	800

The Expenses account has a debit balance as indicated:

Expenses	
500 (7) 500	

The closing entry involves a debit to the Income Summary account to transfer the balance to that account and a credit to the Expenses account to close that account.

Expenses		Income Summary	
-0- (7) 500	(C) 500	(C) 500	*300* (C) 800

The income and expense accounts have been closed. They are in balance, i.e., they have no balance. The Income Summary account now shows the net income for the period. The $800 credit represents income earned and the $500 debit represents expenses incurred. The net income is now transferred to the Ack, Capital account. The net income is the credit balance of the Income Summary account ($300). The closing entry transfers this credit balance to the capital account by recording a debit to Income Summary and a credit to Ack, Capital.

Income Summary		Ack, Capital	
(C) 500	(C) 800	(9) 100	1,000
(C) 300			(8) 400
			(C) 300

It should be noted that the statement of capital includes the net income for the period. The capital account in the general ledger *after the books are closed* shows all factors that appear in the statement of capital, and the ending balance of the account is the same as appears in the balance sheet.

The closing of the books brings a new account to the ledger which shows all income and expense factors and parallels the income statement. This account—Income Summary—should be compared with the income statement to ascertain that they are in agreement.

The Post-Closing Trial Balance

After the books have been closed, a trial balance is taken to prove again the equality of debits and credits in the ledger. *Only* the balance sheet accounts will appear in this after-closing trial balance. It should contain the same data that appears in the balance sheet. The balances

are the opening balances for the following year. The post-closing trial balance of Al Ack Realty Sales appears below:

	Dr.	Cr.
Cash	$ 900	
Equipment	800	
Accounts payable		$ 100
Ack, Capital		1,600
Totals	$1,700	$1,700

You will recall that, in the trial balance (pre-closing), the total debit balances of balance sheet accounts exceeded the total credit balances of balance sheet accounts by $300. The balance of the Ack, Capital account in this trial balance was $1,300, or $300 lower than the balance that appears in the post-closing trial balance ($1,600). Subsequent to the listing of the trial balance, the net income of $300 was transferred to the Ack, Capital account. Total debit balances of balance sheet accounts equal the total credit balances after this transfer, as shown by the post-closing trial balance above.

QUESTIONS

1. List the rules for recording increases and decreases in the following: (a) Assets. (b) Liabilities. (c) Capital.
2. Why are increases in income accounts recorded as credits?
3. Why are increases in expense accounts recorded as debits?
4. What are the five basic types of accounts?
5. What is the difference between a nominal account and a real account?
6. An accounting student recorded the transactions listed below under the mistaken impression that increases in all accounts are recorded as debits and decreases in all accounts as credits.

   (a) Investment of cash by owner.
   (b) Withdrawal of cash by owner.
   (c) Purchase of equipment for cash.
   (d) Purchase of equipment on account.
   (e) Collection of an account receivable.
   (f) Payment of an account payable.
   (g) Income earned and collected.
   (h) Income earned, to be collected.
   (i) Payment of expenses.

   Which of the transactions are incorrectly recorded?
7. The recording in an account of a $10 debit entry as a credit or the recording of a $10 credit entry as a debit will result in an error of what amount in the balance of the account?
8. What is meant by double entry bookkeeping?
9. Why is it essential that there be an equality of debits and credits in the recording of each transaction?

10. Why will the trial balance totals be out of balance if balance sheet accounts only are listed in the trial balance?
11. In what unusual case will the trial balance totals be in balance when the balance sheet accounts only are listed in the trial balance?
12. Why are income and expense accounts not listed in a post-closing trial balance?
13. What entries are recorded in the Income Summary account for a year prior to the end of the year?
14. What is the difference between the account form of balance sheet and the report form?

PROBLEMS

Problem 2-1

The transactions for this problem are listed in Problem 1-7 of Chapter 1.

Required:

(A) Record the transactions of Over Realty Sales for the month of June, 1960, in T-accounts, identifying each transaction by letter.

(B) Prepare the following: (1) a trial balance, (2) an income statement, (3) a statement of capital, and (4) a report-form balance sheet.

(C) Record the closing entries and prepare a post-closing trial balance.

Problem 2-2

Using the data listed below, prepare the trial balance of Just Surveying Services as of May 31, 1960. List the real accounts first in the following order: Assets, Liabilities, Capital.

Cash	$ 3,000
Fees earned	2,500
Accounts receivable	3,700
Accounts payable	3,400
Expenses	1,800
O. R. Just, Capital	15,600
Notes payable	1,000
Equipment	1,200
Land	2,800
Building	10,000

Problem 2-3

The trial balances of the business of L. C. Reed, as of December 31, 1960, and as of December 31, 1961, show the following data concerning the balance sheet accounts (income statement accounts have been omitted):

	December 31, 1960		December 31, 1961	
Cash	$ 900		$ 800	
Accounts receivable	2,600		2,700	
Equipment	3,000		3,200	
Accounts payable		$1,300		$2,400
Notes payable		1,000		1,000
L. C. Reed, Capital		3,500		4,200

Required:

(A) Compute the amount of net income for each year.
(B) Compute the amount of net income for 1961 by showing the change in net assets during the year.
(C) Prepare the balance sheet as of December 31, 1961.

Problem 2-4

All of the real accounts of X, Business are listed below with the balances that appear in the trial balance of December 31, 1960.

Accounts payable	$ 8,400
Accounts receivable	9,600
Notes payable	3,000
Notes receivable	2,000
X, Capital	10,000
Equipment	8,000
Cash	3,000

Required:

(A) Compute the amount of the net income.
(B) Compute the amount of total expenses if total revenue for the period is $9,000.

Problem 2-5

The business transactions of Rover Reed, a certified public accountant, for the three months ended December 31, 1960, were as follows:

(a) Deposited $600 in a checking account in the business name, Rover Reed, CPA, to start the business.
(b) Rented office space and paid the rent for October, November, and December, $300 (debit the Expenses account).
(c) Purchased supplies expected to be consumed by the end of the year, $100 (debit the Expenses account).
(d) Purchased equipment from the Rate Equipment Company for $500. Paid $100 in cash and signed two notes payable for $200 each. One note is due in December, 1960, and the other is due in January, 1961.
(e) Billed Client A for services performed, $300.
(f) Received $50 cash for services performed for Client B.
(g) Transferred $100 from his personal checking account to the business checking account.
(h) Paid miscellaneous expenses, $150.
(i) Received $300 from Client A in full of account.
(j) Paid the note that fell due in December, $200.
(k) Billed Client C for services performed, $400.

Financial statements were prepared for the business for the first time at the end of the year.

Required:

(A) Record the transactions in T-accounts identifying each transaction by letter.
(B) Prepare a trial balance, an income statement, a statement of capital, and a balance sheet.
(C) Record the closing entries and prepare a post-closing trial balance.

SUPPLEMENTARY PROBLEMS

Problem 2-6

All of the asset and liability accounts of Y, Services are listed below with the balances that appear in the trial balances of December 31, 1962, and December 31, 1961. (Form 3)

	December 31, 1962	December 31, 1961
Cash	$1,200	$ 900
Accounts receivable	2,100	2,500
Accounts payable	1,700	1,900
Equipment	4,200	4,000

Y invested $500 in the business in January of 1962. He withdrew a total of $320 during the year 1962.

Required:

(A) Compute the amount of net income for the year 1962.
(B) Prepare a statement of capital for the year 1962.

Problem 2-7

The business transactions of Hugh King, an attorney, for the two months ended December 31, 1962, were as follows:

(a) Deposited $500 in a checking account in the business name, Hugh King, Attorney, to start the business.
(b) Purchased equipment for $800. Paid $200 in cash and signed two notes payable for $300 each. One note is due in December, 1962, and the other is due in February, 1963.
(c) Paid the rent for November, $100 for office space.
(d) Purchased supplies expected to be consumed by the end of the year, $150 cash (debit the Expenses account).
(e) Received $200 cash for services performed for Client A.
(f) Billed Client B for services performed, $500.
(g) Paid the rent for December, $100.
(h) Billed Client C for services performed, $450.
(i) Received $500 from Client B in full of account.
(j) Paid the note that fell due in December, $300.
(k) Transferred $50 from his business checking account to his personal checking account.
(l) Paid miscellaneous expenses, $240.

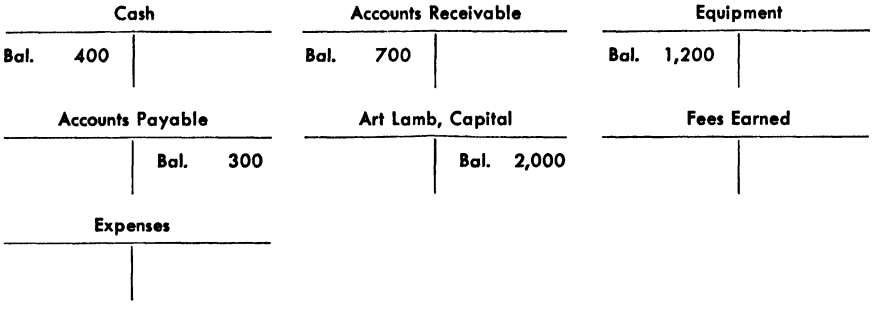
Financial statements were prepared for the business for the first time at the end of the year.

Required:

(A) Record the transactions in T-accounts identifying each transaction by letter.
(B) Prepare a trial balance, an income statement, a statement of capital, and a balance sheet.
(C) Record the closing entries and prepare a post-closing trial balance. (Forms 4, 3)

Problem 2-8

The general ledger accounts of the business of Art Lamb, CPA, appear as follows as of January 2, 1963:



Transactions during the month of January, 1963, were as follows:

(a) Paid January rent, $50.
(b) Received $700 cash for services rendered and billed to Client A in November, 1962.
(c) Received $100 cash for services performed for Client B.
(d) Billed Client C for services rendered, $450.
(e) Paid miscellaneous expenses, $300.
(f) Issued check for $200, partial payment to a creditor for equipment purchased on account in December, 1962.
(g) Received $250 from Client C to apply on account.
(h) Withdrew $100 for personal use.

Required:

(A) Record the January transactions in the accounts identifying each transaction by letter.
(B) Prepare a trial balance, an income statement, a statement of capital, and a balance sheet. (Forms 4, 3)

Problem 2-9

The post-closing trial balance of December 31, 1962, for the business of E. M. Liden appears below:

	Dr.	Cr.
Cash	$ 600	
Accounts receivable	1,900	
Equipment	2,100	
Accounts payable		$3,600
E. M. Liden, Capital		1,000
	$4,600	$4,600

The trial balance of the business as of December 31, 1963, shows the following data in regard to the balance sheet accounts (income statement accounts have been omitted):

	Dr.	Cr.
Cash	$ 400	
Accounts receivable	3,900	
Equipment	2,100	
Accounts payable		$2,600
E. M. Liden, Capital		1,700

Mr. Liden withdrew no funds during 1963, but he did make an additional investment in the business.

Required:

Prepare a statement of capital for the year ended December 31, 1963. (Form 3)

3

Merchandising Operations

Cost of Goods Sold

The chief source of income for a business enterprise may be the sale of merchandise rather than the rendering of service. If a business renders services, the deduction of the expenses from the service income determines the net income. If a business sells merchandise, however, the *cost of the merchandise sold* and the expenses must be deducted from the sales (which are recorded at selling prices) to determine the net income. The income statement of a merchandising business might appear as follows:

ED ECK PIANO STORE
Income Statement
For the Year Ended December 31, 1960

Sales	$700
Cost of Goods Sold	400
Gross Profit	$300
Expenses	200
Net Income	$100

Inventory Methods

The merchandise purchased is recorded at cost and the cost of the merchandise on hand at any given time is referred to as the inventory. A business enterprise may use either of two accounting methods for recording the cost of goods sold and the inventory. These two methods

are the *perpetual inventory method* and the *physical inventory method.* The balance sheet of an enterprise will not differ, regardless of which of the methods is used.

Beginning Inventory The post-closing trial balance of Ed Eck Piano Store at the end of its calendar fiscal year, December 31, 1959, appears below:

	Dr.	Cr.
Cash	$1,000	
Accounts receivable	1,200	
Inventory	2,000	
Equipment	900	
Accounts payable		$1,700
Ed Eck, Capital		3,400
Totals	$5,100	$5,100

The business has been in operation for a few years and the merchandise on hand consists of five pianos which cost $400 each. The balance of the Inventory account, $2,000, would appear as shown, regardless of which inventory method is in use. The ending inventory for the year 1959 is, of course, the beginning inventory for the year 1960. The account balances at the beginning of the new fiscal year are shown in T-account form below. These balances are the same as the ones appearing in the post-closing trial balance at the close of the prior year.

Cash		Accounts Receivable	
Bal. 1,000		Bal. 1,200	

Inventory		Equipment	
Bal. 2,000		Bal. 900	

Accounts Payable		Ed Eck, Capital	
	Bal. 1,700		Bal. 3,400

During a fiscal year a great many transactions will occur, but to facilitate the explanation it is assumed that the Ed Eck Piano Store has only one sale, one purchase, one payment of expenses, a collection of an account receivable, and a payment of an account payable.

Recording Purchases The store purchases, on account, two pianos at a cost of $400 each. The purchase is recorded as follows (1):

PERPETUAL INVENTORY METHOD

Inventory			
Bal.	2,000		
(1)	800		

(No Purchases account)

Accounts Payable			
		Bal.	1,700
		(1)	800

PHYSICAL INVENTORY METHOD

Inventory			
Bal.	2,000		

Purchases			
(1)	800		

Accounts Payable			
		Bal.	1,700
		(1)	800

Accounts in the general ledger unaffected by the transaction (1) are not shown above. Under the perpetual inventory method, all purchases of merchandise are recorded as debits to the *Inventory* account. This reflects the increase in the inventory (an asset). If the physical inventory method is in use, all purchases of merchandise are recorded as debits to the *Purchases* account. The rules for debit and credit entries in the Purchases account are the same as they are for an expense account:

PURCHASES	
+	−
Increases	decreases
Dr.	Cr.

There is no Purchases account in the ledger of the enterprise using the perpetual inventory method.

Recording Sales One piano is sold for $700. The terms of the sale require the customer to pay this amount in thirty days. Regardless of the method in use, a required entry (2) is a debit to the Accounts Receivable account and a credit to the Sales account. Sales, like Commissions Earned, is an income account. Increases in sales are, therefore, recorded as credits to the Sales account. The amount of the entry ($700) is the selling price of the piano. It should be noted that, although the Sales account is referred to as an income account, it reflects selling prices. A sizeable portion of the amount recorded in the Sales account is a recovery of the cost of the item sold.

The physical inventory method uses no entry other than the credit to the Sales account and the debit to Accounts Receivable in the recording of a sale. Under the perpetual inventory method an additional entry

(2a) is made, recording the cost of the piano sold and reducing the Inventory account to the cost of the pianos still on hand. The accounts affected by the sale are shown below:

PERPETUAL INVENTORY METHOD

Inventory

Bal.	2,000	(2a)	400
(1)	800		

Accounts Receivable

Bal.	1,200		
(2)	700		

Sales

		(2)	700

(No Purchases account)

Cost of Goods Sold

(2a)	400		

PHYSICAL INVENTORY METHOD

Inventory

Bal.	2,000		

Accounts Receivable

Bal.	1,200		
(2)	700		

Sales

		(2)	700

Purchases

(1)	800		

(No Cost of Goods Sold account)

Under the physical inventory method, the Inventory account and the Purchases account are not affected by the recording of a sale. They are shown above to enable the reader to compare the two methods more readily. The credit to the Inventory account (perpetual method) reduces its balance from $2,800 (seven pianos @ $400) to $2,400 (six pianos @ $400). Under the perpetual inventory method, the Inventory account shows, at all times, the cost of the pianos on hand. The debit of $400 to Cost of Goods Sold records the cost of the piano which was sold. The excess of the selling price ($700) over the cost of the merchandise sold ($400) is known as *gross profit* ($300).

The cost of goods sold, like expenses, must be deducted from sales to arrive at the net income. The Cost of Goods Sold account is recorded under the same rules as an expense account:

COST OF GOODS SOLD

+	−
increases	decreases
Dr.	Cr.

Recording Expenses There is no difference in the recording of expenses under the two methods. The payment of expenses of $200 would in each case be recorded (3) by a debit to Expenses and a credit to Cash. The illustrations are continued, showing all accounts affected by the three transactions:

PERPETUAL INVENTORY METHOD

Cash			
Bal.	1,000	(3)	200

Accounts Receivable			
Bal.	1,200		
(2)	700		

Inventory			
Bal.	2,000	(2a)	400
(1)	800		

Accounts Payable			
		Bal.	1,700
		(1)	800

Sales			
		(2)	700

Cost of Goods Sold			
(2a)	400		

Expenses			
(3)	200		

PHYSICAL INVENTORY METHOD

Cash			
Bal.	1,000	(3)	200

Accounts Receivable			
Bal.	1,200		
(2)	700		

Inventory			
Bal.	2,000		

Accounts Payable			
		Bal.	1,700
		(1)	800

Sales			
		(2)	700

Purchases			
(1)	800		

Expenses			
(3)	200		

Collection of an Account Receivable A check in the amount of $1,200 was received from a customer in full payment of his account (4). The Cash account is debited to record the increase in cash, and the Accounts Receivable account is credited to record the decrease in accounts receivable. This transaction has no effect upon the income statement accounts.

Payment of an Account Payable A check in the amount of $1,700 was sent to a creditor in full payment of his account (5). The Accounts Payable account is debited to record the decrease in accounts payable, and the Cash account is credited to record the decrease in cash. The

transaction has no effect upon the income statement accounts. Transactions 4 and 5 are recorded as indicated above, regardless of the inventory method in use. The ledger accounts of the Ed Eck Piano Store are shown below after the recording of Transactions 4 and 5:

PERPETUAL INVENTORY METHOD

Cash

Bal.	1,000	(3)	200
(4)	1,200	(5)	1,700
300	*2,200*		*1,900*

Accounts Receivable

Bal.	1,200	(4)	1,200
(2)	700		
700	*1,900*		

Inventory

Bal.	2,000	(2a)	400
(1)	800		
2,400	*2,800*		

Equipment

Bal.	900

Accounts Payable

(5)	1,700	Bal.	1,700
		(1)	800
		800	*2,500*

Ed Eck, Capital

		Bal.	3,400

Sales

		(2)	700

Cost of Goods Sold

(2a)	400

Expenses

(3)	200

PHYSICAL INVENTORY METHOD

Cash

Bal.	1,000	(3)	200
(4)	1,200	(5)	1,700
300	*2,200*		*1,900*

Accounts Receivable

Bal.	1,200	(4)	1,200
(2)	700		
700	*1,900*		

Inventory

Bal.	2,000

Equipment

Bal.	900

Accounts Payable

(5)	1,700	Bal.	1,700
		(1)	800
		800	*2,500*

Ed Eck, Capital

		Bal.	3,400

Sales

		(2)	700

Purchases

(1)	800

Expenses

(3)	200

Trial Balances of Merchandising Businesses

If there were no other transactions, the trial balances at the end of the year would appear as follows:

	PERPETUAL INVENTORY METHOD		PHYSICAL INVENTORY METHOD	
	Dr.	Cr.	Dr.	Cr.
Cash	$ 300		$ 300	
Accounts receivable	700		700	
Inventory	2,400		2,000	
Equipment	900		900	
Accounts payable		$ 800		$ 800
Ed Eck, Capital		3,400		3,400
Sales		700		700
Cost of goods sold	400		—	
Purchases	—		800	
Expenses	200		200	
Totals	$4,900	$4,900	$4,900	$4,900

The accounts that show differences because of the difference in the inventory method used are Inventory, Cost of Goods Sold, and Purchases. The balance of the Inventory account ($2,400) under the perpetual method is the cost of merchandise on hand at the end of the year, i.e., the ending inventory. It will appear in the balance sheet as an asset. The Inventory account under the physical inventory method shows the cost of goods on hand at the *beginning* of the year, i.e., the beginning inventory. There is no Cost of Goods Sold account when the physical inventory procedure is followed, and there is no Purchases account when the perpetual inventory method is in use.

Income Statements for Merchandising Businesses

The following statement of income and expense can be prepared directly from the trial balance of the enterprise that uses perpetual inventory records:

ED ECK PIANO STORE
Income Statement
For the Year Ended December 31, 1960

Sales	$700
Cost of Goods Sold	400
Gross Profit	$300
Expenses	200
Net Income	$100

Such a statement cannot be made from the trial balance of the enterprise using the physical inventory method. The cost of goods sold is not known. The cost of goods sold can be computed, however, if the cost of merchandise on hand at the end of the year is determined. To determine the cost of merchandise on hand at the end of the year, the enterprise *takes a physical inventory.* This involves counting all of the goods on hand, listing them at cost, and accumulating the extensions into a total. The business using the perpetual method should take a physical inventory at least once a year to ascertain the accuracy of the book records. A count of the goods on hand for the piano store should reveal that there are six pianos on hand which cost $400 each. Thus, the ending inventory is $2,400. The enterprise using the physical inventory method can now compute the cost of goods sold as indicated below:

Inventory, January 1, 1960	$2,000
Add purchases	800
Goods available for sale	$2,800
Deduct inventory, December 31, 1960	2,400
Cost of Goods Sold	$ 400

All of the information used in this computation except for the ending inventory is found in the trial balance. The accounts appearing in the computation are sometimes referred to as *cost* accounts. The computation appears as a part of the income statement.

ED ECK PIANO STORE
Income Statement
For the Year Ended December 31, 1960

Sales		$700
Less Cost of Goods Sold:		
Inventory, January 1, 1960	$2,000	
Purchases	800	
Total	$2,800	
Inventory, December 31, 1960	2,400	
Cost of Goods Sold		400
Gross Profit		$300
Expenses		200
Net Income		$100

The cost of goods sold for the perpetual inventory method has been computed and recorded during the period, and it appears in the trial balance as one amount. It is shown in the income statement in one

amount. The cost of goods sold for the physical inventory method must be ascertained by determining the cost of goods available for sale from the trial balance (beginning inventory plus purchases) and deducting the cost of goods still on hand (ending inventory). Otherwise, the income statement is the same, regardless of the inventory method that is used. It should be noted that, under the physical inventory method, all accounts that are used in the calculation of the cost of goods sold are recorded under the same rules for debits and credits as the Cost of Goods Sold account (perpetual inventory method).

Statement of Capital and Balance Sheet for Merchandising Business

The statement of capital and the balance sheet can now be prepared; they will not differ, regardless of which inventory method is in use.

ED ECK PIANO STORE
Statement of Capital
For the Year Ended December 31, 1960

Balance, January 1, 1960	$3,400
Net income for the year	100
Balance, December 31, 1960	$3,500

ED ECK PIANO STORE
Balance Sheet
As of December 31, 1960

ASSETS		LIABILITIES AND CAPITAL	
Cash	$ 300	Accounts payable	$ 800
Accounts receivable	700	Ed Eck, Capital	3,500
Inventory	2,400		
Equipment	900		
	$4,300		$4,300

Businesses that have a great variety of small items included in sales each day usually follow the physical inventory method. If such a business uses the perpetual system, the accountants must determine the cost of each sale. The use of the perpetual method in such a business requires a very great amount of time. An enterprise having few sales can easily use the perpetual method.

Worksheets

A worksheet is a device for facilitating the preparation of the financial statements. No such device is needed when a trial balance is as simple as the ones that are illustrated in this chapter. However, the function of a worksheet can be shown clearly with a brief trial balance, and it is more readily understood by the reader. On page 46 the trial balances previously illustrated in this chapter are entered on a worksheet form.

The accountant may determine the net income from the trial balance before completing the worksheet or preparing the income statement if he desires. Under the perpetual inventory method, the net income of $100 may be readily computed by subtracting the cost of goods sold and expenses ($400 plus $200 = $600) from the sales ($700). If the balance sheet accounts only are listed from the trial balance, the amount of the net income can be easily computed.

Balance Sheet Accounts	Dr.	Cr.
Cash	$ 300	
Accounts receivable	700	
Inventory	2,400	
Equipment	900	
Accounts payable		$ 800
Ed Eck, Capital		3,400
Totals	$4,300	$4,200
Subtract smaller total	4,200	
Net income	$ 100	

Under the physical inventory method, the same computation may be made if the ending inventory is known. The computer replaces the inventory amount of $2,000, which is the beginning inventory and not an asset, with the ending inventory in the amount of $2,400. The listing of balance sheet accounts, under the physical inventory method, will then appear exactly as the above listing from the trial balance of the enterprise that uses perpetual inventory records, and the computation is exactly the same.

PERPETUAL INVENTORY METHOD

Account	Trial Balance Dr.	Trial Balance Cr.	Income and Expense Dr.	Income and Expense Cr.	Ed Eck, Capital Dr.	Ed Eck, Capital Cr.	Balance Sheet Dr.	Balance Sheet Cr.
Cash	300							
Accounts receivable	700							
Inventory	2,400							
Equipment	900							
Accounts payable		800						
Ed Eck, Capital		3,400						
Sales		700						
Cost of goods sold	400							
Expenses	200							
	4,900	4,900						

PHYSICAL INVENTORY METHOD

Account	Trial Balance Dr.	Trial Balance Cr.	Income and Expense Dr.	Income and Expense Cr.	Ed Eck, Capital Dr.	Ed Eck, Capital Cr.	Balance Sheet Dr.	Balance Sheet Cr.
Cash	300							
Accounts receivable	700							
Inventory	2,000							
Equipment	900							
Accounts payable		800						
Ed Eck, Capital		3,400						
Sales		700						
Purchases	800							
Expenses	200							
	4,900	4,900						

Extension of the Worksheet All account balances appearing in the trial balance are extended across the worksheet into the columns representing the proper statement. All assets and liabilities are extended to the balance sheet columns. Ed Eck, Capital is extended to the capital columns. All income and expense accounts are extended to the income and expense columns. Debits in the trial balance are extended as debits, and credits are extended as credits. The extended worksheet appears as follows:

PERPETUAL INVENTORY METHOD

Account	Trial Balance Dr.	Trial Balance Cr.	Income and Expense Dr.	Income and Expense Cr.	Ed Eck, Capital Dr.	Ed Eck, Capital Cr.	Balance Sheet Dr.	Balance Sheet Cr.
Cash	300						300	
Accounts receivable	700						700	
Inventory	2,400						2,400	
Equipment	900						900	
Accounts payable		800						800
Ed Eck, Capital		3,400				3,400		
Sales		700		700				
Cost of goods sold	400		400					
Expenses	200		200					
	4,900	4,900						

PHYSICAL INVENTORY METHOD

Account	Trial Balance Dr.	Trial Balance Cr.	Income and Expense Dr.	Income and Expense Cr.	Ed Eck, Capital Dr.	Ed Eck, Capital Cr.	Balance Sheet Dr.	Balance Sheet Cr.
Cash	300						300	
Accounts receivable	700						700	
Inventory	2,000		2,000					
Equipment	900						900	
Accounts payable		800						800
Ed Eck, Capital		3,400				3,400		
Sales		700		700				
Purchases	800		800					
Expenses	200		200					
	4,900	4,900						

The inventory account in the trial balance under the perpetual inventory method is the ending inventory. It is extended to the balance sheet columns, since it is an asset. The inventory account in the trial balance under the physical inventory method is the beginning inventory. All or part of this inventory has undoubtedly been sold during the year. The amount no longer represents an asset. It is an amount to be used in calculating the cost of goods sold. This beginning inventory is extended as a debit to the income and expense columns of the worksheet. The worksheet for the physical inventory method, at this point, does not contain the ending inventory. The ending inventory will appear in two places in the statements prepared at the end of the period. It is an asset in the balance sheet and it is a deduction from cost of goods available for sale in arriving at cost of goods sold in the income statement. It is thus placed on the worksheet as a debit in the balance

sheet columns and as a credit in the income and expense columns as shown below:

PHYSICAL INVENTORY METHOD

Account	Trial Balance Dr.	Trial Balance Cr.	Income and Expense Dr.	Income and Expense Cr.	Ed Eck, Capital Dr.	Ed Eck, Capital Cr.	Balance Sheet Dr.	Balance Sheet Cr.
Cash	300						300	
Expenses	200		200					
	4,900	4,900						
Inventory, December 31, 1960				2,400			2,400	

Any time an amount that did not appear in the trial balance is placed on a worksheet, it is entered thereon both as a debit and as a credit.

Completion of the Worksheet The worksheet under the physical inventory method is now ready to be completed. The worksheet under the perpetual inventory method was ready for completion as soon as the trial balance was extended—nothing additional is necessary. The income and expense columns are now footed. If the total credits exceed the total debits, the enterprise has realized a net profit. If the total debits exceed the total credits, the business has suffered a net loss. The net income figure is entered on the worksheet as a debit in the income and expense columns which brings them into balance (see worksheets on page 49). It is also entered as a credit to Ed Eck, Capital columns. A net loss amount would be entered as a credit in the income and expense columns (bringing them into balance) and as a debit to Ed Eck, Capital columns. Net income increases capital; net loss decreases capital. The reader will recall that all income and expense accounts are really a part of capital and that they are transferred to capital at the end of each fiscal year through a process known as closing the books. The entry on the worksheet transferring the net income to capital parallels the entry made in the ledger accounts in the closing process, which is a debit to the Income Summary account and a credit to the capital account of the owner.

The amount of Ed Eck's capital at the end of the year is now determined from the capital columns of the worksheet. The excess of the total credit balances over the total debit balances in the Ed Eck, Capital columns is the amount of the owner's capital at the end of the year. It is entered as a debit in the capital columns and as a credit in the balance sheet columns. Ending capital appears in the balance sheet. The separate capital columns on the worksheet are used only to facilitate the preparation of the statement of capital.

PERPETUAL INVENTORY METHOD

Account	Trial Balance Dr.	Trial Balance Cr.	Income and Expense Dr.	Income and Expense Cr.	Ed Eck, Capital Dr.	Ed Eck, Capital Cr.	Balance Sheet Dr.	Balance Sheet Cr.
Cash	300						300	
Accounts receivable	700						700	
Inventory	2,400						2,400	
Equipment	900						900	
Accounts payable		800						800
Ed Eck, Capital		3,400				3,400		
Sales		700		700				
Cost of goods sold	400		400					
Expenses	200		200					
	4,900	4,900	600	700				
Net income			100			100		
			700	700	–0–	3,500		
Capital, December 31, 1960					3,500			3,500
					3,500	3,500	4,300	4,300

PHYSICAL INVENTORY METHOD

Account	Trial Balance Dr.	Trial Balance Cr.	Income and Expense Dr.	Income and Expense Cr.	Ed Eck, Capital Dr.	Ed Eck, Capital Cr.	Balance Sheet Dr.	Balance Sheet Cr.
Cash	300						300	
Accounts receivable	700						700	
Inventory	2,000		2,000					
Equipment	900						900	
Accounts payable		800						800
Ed Eck, Capital		3,400				3,400		
Sales		700		700				
Purchases	800		800					
Expenses	200		200					
	4,900	4,900						
Inventory, December 31, 1960				2,400			2,400	
			3,000	3,100				
Net income			100			100		
			3,100	3,100	–0–	3,500		
Capital, December 31, 1960					3,500			3,500
					3,500	3,500	4,300	4,300

It is now an easy task to prepare the statements from the worksheets. The statements will be the same as the ones prepared previously in the chapter from the trial balances without the use of worksheets. The income statements will show the same variation that was illustrated previously. There is no difference in the balance sheets or the statements of capital under the two different inventory methods.

ED ECK PIANO STORE
Income Statement
For the Year Ended December 31, 1960

Perpetual Inventory Method		Physical Inventory Method		
Sales	$700	Sales		$700
Cost of Goods Sold	400	Cost of Goods Sold:		
		Inventory, January 1, 1960	$2,000	
Gross Profit	$300	Purchases	800	
Expenses	200			
		Cost of goods available for sale	$2,800	
Net Income	$100	Inventory, December 31, 1960	2,400	
		Cost of Goods Sold		400
		Gross Profit		$300
		Expenses		200
		Net Income		$100

The left side of the above illustration shows the income statement as it would appear under the perpetual inventory method; the right side shows the statement as it would appear under the physical inventory method. The side-by-side statement is presented for comparative purposes only.

ED ECK PIANO STORE
Statement of Capital
For the Year Ended December 31, 1960

Balance, January 1, 1960	$3,400
Net income for the year	100
Balance, December 31, 1960	$3,500

ED ECK PIANO STORE
Balance Sheet
As of December 31, 1960

ASSETS		LIABILITIES AND CAPITAL	
Cash	$ 300	Accounts payable	$ 800
Accounts receivable	700	Ed Eck, Capital	3,500
Inventory	2,400		
Equipment	900		
Total	$4,300	Total	$4,300

Closing the Books

The information necessary for closing the books may be found in the income, cost of goods sold, and expense accounts in the ledger but it is more readily available from the income and expense columns of the worksheet or from the income statement. Reference to any of these in the above illustrations reveals the following income, cost, and expense account balances:

	INVENTORY METHOD			
	Perpetual		Physical	
	Dr.	Cr.	Dr.	Cr.
Sales		700		700
Cost of goods sold	400		—	
Inventory, January 1, 1960	—		2,000	
Purchases	—		800	
Inventory, December 31, 1960		—		2,400
Expenses	200		200	

The transfer of these balances to the Income Summary account is the chief work in the process of closing the books. The Income Summary accounts would appear as follows after these transfers:

PERPETUAL INVENTORY METHOD

Income Summary				
Cost of goods sold	400	Sales	*100*	700
Expenses	200			
	600			

PHYSICAL INVENTORY METHOD

Income Summary			
Inv., Jan. 1	2,000	Sales	700
Purchases	800	Inv., Dec. 31	2,400
Expenses	200		*100* *3,100*
	3,000		

Under either inventory method, the balance of the Income Summary account is the same—a credit of $100, which is the net income. This credit balance is closed to Ed Eck, Capital account. The entry is a debit to the Income Summary account and a credit to Ed Eck, Capital account. The Income Summary accounts and the Ed Eck, Capital accounts appear as follows after this entry:

PERPETUAL INVENTORY METHOD

Income Summary

	400		700
	200		
(Net income)	100		
	700		700

Ed Eck, Capital

		Bal.	3,400
		(Net income)	100

PHYSICAL INVENTORY METHOD

Income Summary

	2,000		700
	800		2,400
	200		
(Net income)	100		
	3,100		3,100

Ed Eck, Capital

		Bal.	3,400
		(Net income)	100

The capital account is the same regardless of the method.

The income statement accounts, after the closing entries (C) have been made, appear as follows:

PERPETUAL INVENTORY METHOD

Sales

(C)	700	(2)	700

Cost of Goods Sold

(2a)	400	(C)	400

Expenses

(3)	200	(C)	200

PHYSICAL INVENTORY METHOD

Sales

(C)	700	(2)	700

Inventory

Bal.	2,000	(C-1)	2,000
(C-2)	2,400		

Purchases

(1)	800	(C)	800

Expenses

(3)	200	(C)	200

The only change in closing entry procedure from that of a service enterprise is the "closing" of the Inventory account under the physical inventory method. The Inventory account under the perpetual inventory method is not involved in the closing process because the balance of the account, at all times, represents an asset. The Inventory account, under the physical inventory method, appears as follows at the time the trial balance is prepared:

Inventory			
Bal.	2,000		

The $2,000 balance is the amount of the inventory at the beginning of the year. Part of the inventory has been sold during the year. The $2,000 balance no longer represents an asset. The balance is added to the balance of the Purchases account at the end of the year to calculate the cost of goods available for sale in the income statement. The balance is closed by crediting the Inventory account and debiting Income Summary in the same manner that the Purchases account is closed by crediting the Purchases account and debiting the Income Summary account. The Inventory account appears as follows after this closing entry (C-1):

Inventory			
Bal.	2,000	(C-1)	2,000

The ending inventory is then set up in the general ledger by a closing entry (C-2) that is a debit to the Inventory account and a credit to the Income Summary account. The Inventory account is shown below after this entry has been made:

Inventory			
Bal.	2,000	(C-1)	2,000
(C-2)	2,400		

The credit to the Income Summary account (previously illustrated) completes the recording of the cost of goods sold in that account. The summary has been debited with the cost of goods available for sale ($2,800—beginning inventory of $2,000 and purchases of $800). The credit for the ending inventory represents the deduction that is made from cost of goods available for sale to determine the cost of goods sold. Cost of goods available for sale of $2,800 minus $2,400, the credit for the ending inventory, equals $400, the cost of goods sold.

It should be noted that the Inventory account under the physical inventory method is inactive during the year and that it is only affected by the two closing entries at the end of the year. The final balance of the Inventory account as of December 31, 1960 ($2,400) represents an asset. During the year 1961, however, it is a cost of goods sold factor. It is no longer an asset.

QUESTIONS

1. What is gross profit?
2. Indicate the difference, if any, between the perpetual inventory method and the physical inventory method in regard to the recording of each of the following transactions:

   (a) Purchase of merchandise on account.
   (b) Purchase of merchandise for cash.
   (c) Payment of an account payable.
   (d) Payment of expense.
   (e) Sale of merchandise on account.
   (f) Sale of merchandise for cash.
   (g) Collection of an account receivable.

3. What are the rules for debit and credit entries in the Purchases account and in the Cost of Goods Sold account?
4. Why does the balance of the Inventory account as shown by the trial balance at the end of the fiscal year under the physical inventory method differ from the balance that would be shown if the perpetual inventory method had been used?
5. Is the amount shown for inventory in the post-closing trial balance under the physical inventory method the same as the amount that would be shown if the perpetual inventory method had been used?
6. Can the income statement be prepared from the trial balance without additional data? (a) Under the perpetual inventory method. (b) Under the physical inventory method.
7. Why should a physical inventory be taken at least once a year by an enterprise that maintains perpetual inventory records?
8. Explain why the Inventory account under the perpetual inventory method is not closed at the end of the fiscal year.
9. What is the purpose of a worksheet?
10. In which business enterprise listed below could perpetual inventory records be maintained with the least difficulty? Why? (a) A hardware store. (b) A grocery store. (c) A piano store.
11. Indicate whether each of the following is correct or incorrect:

    (a) Sales − Cost of Goods Sold − Expenses = Net Income.
    (b) Gross Profit + Cost of Goods Sold + Expenses = Sales.
    (c) Net Income + Cost of Goods Sold + Expenses = Sales.
    (d) Sales − Gross Profit = Cost of Goods Sold.
    (e) Gross Profit + Net Income + Expenses = Sales.
    (f) Cost of Goods Sold + Gross Profit − Sales = Zero.

12. Indicate whether each of the following is correct or incorrect:

    (a) Beginning Inventory + Ending Inventory − Purchases = Cost of Goods Sold.
    (b) Beginning Inventory + Purchases − Cost of Goods Sold = Ending Inventory.
    (c) Beginning Inventory + Purchases − Ending Inventory = Cost of Goods Sold.

(d) Ending Inventory + Cost of Goods Sold − Beginning Inventory − Purchases = Zero.
(e) Cost of Goods Sold − Beginning Inventory − Ending Inventory = Purchases.
(f) Cost of Goods Sold − Beginning Inventory + Ending Inventory = Purchases.

PROBLEMS

Problem 3-1

The post-closing trial balance of Earl Elm Organ Store at the end of the fiscal year, December 31, 1959, appears below:

	Dr.	Cr.
Cash	$ 400	
Accounts receivable	3,600	
Inventory	2,000	
Equipment	2,400	
Accounts payable		$4,000
Earl Elm, Capital		4,400
	$8,400	$8,400

The beginning inventory for the year 1960 consists of two organs at a cost of $1,000 each.

The transactions for the year ended December 31, 1960, are listed below:

(a) Collected $1,800 from a customer in full payment of account.
(b) Sold one organ, on account, for $1,800.
(c) Paid one-fourth of the amount owed to creditors, $1,000.
(d) Purchased three organs, on account, at a cost of $1,000 each.
(e) Paid expenses, $600.
(f) Sold one organ for cash, $1,800.
(g) Paid expenses, $500.

Required:
The instructions below are to be followed for both the perpetual inventory method and the physical inventory method.

(A) Set up the ledger T-accounts that will be needed to record the balances of December 31, 1959, and the transactions for the year ended December 31, 1960. (Show the accounts for both inventory methods on the same page in the same manner as they were shown in the text.) Enter the balances as shown by the post-closing trial balance of December 31, 1959, in the ledger T-accounts. Identify these balances by writing "Bal." before each amount.
(B) Record the transactions for the year ended December 31, 1960, in the T-accounts, identifying each transaction by letter.
(C) Prepare a worksheet. (Show the worksheets for both inventory methods on the same page in the same manner as they were shown in the text.)

(D) Prepare an income statement. (Show the income statements for both inventory methods on the same page in the same manner as they were shown in the text.)
(E) Prepare a statement of capital and a balance sheet.
(F) Set up the Income Summary account and record the closing entries in the ledger accounts. Identify the closing entry in each income and expense account by writing "closing" before the amount.
(G) Prepare a post-closing trial balance.

Problem 3-2

From the data set forth below, prepare an income statement for Lex Lawn Shop for the year ended June 30, 1961.

Cash	$ 400
Purchases	3,400
Lex, Capital	2,000
Inventory, July 1, 1960	1,200
Inventory, June 30, 1961	1,500
Sales	5,800
Expenses	1,700

Problem 3-3

The inventory of K, Enterprise is recorded under the perpetual inventory method. The Inventory account for the month of June, 1960, appears below:

Inventory

Balance, June 1	6,000	4,000
	6,000	7,000
	9,000	3,000

Required:

Prepare the cost of goods sold section of the income statement for the month of June, 1960, as it would appear if the enterprise had used the physical inventory method.

Problem 3-4

A partial trial balance for Smith Shoe Store appears as follows:

Cash	$1,000	
Accounts receivable	400	
Inventory	3,700	
Equipment	2,000	
Accounts payable		$1,800
Notes payable		1,000
R. P. Smith, Capital		3,200
Sales		8,400

The physical inventory method is in use. The amount of the ending inventory is $2,400.

Required:

Compute the amount of the net income or net loss.

Problem 3-5

Using the data presented below, prepare income statements for Hall Rugs as follows:

(A) For the year ended December 31, 1956.
(B) For the year ended December 31, 1959.
(C) For the year ended December 31, 1960.

	Year Ended December 31		
	1956	1959	1960
Expenses	$?	$ 700	$ 500
Inventory, January 1	1,500	?	?
Sales	4,800	4,500	?
Inventory, December 31	?	1,600	1,300
Purchases	3,000	3,100	3,200
Net Income	800	500	?
Gross Profit	1,400	?	1,500

SUPPLEMENTARY PROBLEMS

Problem 3-6

The post-closing trial balance of Paul Pride Piano Store at the end of the fiscal year, December 31, 1962, appears below:

	Dr.	Cr.
Cash	$ 360	
Accounts receivable	2,750	
Inventory	3,000	
Equipment	1,200	
Accounts payable		$2,400
Paul Pride, Capital		4,910
	$7,310	$7,310

The beginning inventory for the year 1963 is summarized below:

2 pianos, Model S71, @ $600	$1,200
2 pianos, Model S91, @ $900	1,800
Total inventory	$3,000

The transactions for the year ended December 31, 1963, are listed below:

(a) Sold one piano Model S91, on account, for $1,650.
(b) Received $1,100 from a customer in payment of account.
(c) Purchased one piano Model S91, on account, for $900.
(d) Received $1,650 from a customer in payment of account.
(e) Mailed a check in the amount of $2,400 to a creditor in payment of account.
(f) Sold one piano Model S71 for cash, $1,100.
(g) Sold one piano Model S91, on account, for $1,650.

(h) Purchased one piano Model S91, on account, for $900.
(i) Paid expenses, $1,350.

Required:
The instructions below are to be followed for both the perpetual inventory method and the physical inventory method.

(A) Set up the ledger T-accounts that will be needed to record the balances of December 31, 1962, and the transactions for the year ended December 31, 1963. (Show the accounts for both inventory methods on the same page in the same manner as they were shown in the text.) Enter the balances as shown by the post-closing trial balance of December 31, 1962, in the ledger T-accounts. Identify these balances by writing "Bal." before each amount.
(B) Record the transactions for the year ended December 31, 1963, in the T-accounts, identifying each transaction by letter.
(C) Prepare a worksheet. (Show the worksheets for both inventory methods on the same page in the same manner as they were shown in the text.)
(D) Prepare an income statement. (Show the income statements for both inventory methods on the same page in the same manner as they were shown in the text.)
(E) Prepare a statement of capital and a balance sheet.
(F) Set up the Income Summary account and record the closing entries in the ledger accounts. Identify the closing entry in each income and expense account by writing "closing" before the amount.
(G) Prepare a post-closing trial balance. (Forms 5, 10, 6, 3)

Problem 3-7

The December 31, 1962, trial balance of Sedda Sales appears below:

	Dr.	Cr.
Cash	$ 800	
Accounts receivable	2,500	
Inventory	4,800	
Equipment	1,000	
Accounts payable		$ 2,400
Sam Sedda, Capital		6,900
Sales		10,200
Purchases	7,800	
Expenses	2,600	
	$19,500	$19,500

The inventory at December 31, 1962, is $5,600. Sedda started the business in 1960.

Required:
(A) Prepare a worksheet.
(B) Prepare an income statement.
(C) Set up an Income Summary account and record the closing entries in this account. (Forms 10, 3, 2)

Problem 3-8

A partial trial balance for Quality Carpet Store appears as follows:

	Dr.	Cr.
Cash	$ 9,420	
Accounts receivable	27,360	
Inventory	32,440	
Equipment	12,600	
Accounts payable		$ 25,220
Notes payable		10,000
A. L. Jones, Capital		29,670
Sales		124,330

The physical inventory method is in use. The amount of the ending inventory is $33,710.

Required:

Compute the amount of the net income or net loss. (Form 3)

Problem 3-9

Using the data presented below, prepare income statements for AB Company:

(A) For the year ended December 31, 1961.

(B) For the year ended December 31, 1962. (Form 3)

	Year Ended December 31	
	1961	1962
Inventory, December 31	?	$12,400
Net Income	$ 4,500	?
Purchases	40,100	38,700
Expenses	9,000	7,500
Gross Profit	?	17,800
Sales	62,300	?
Inventory, January 1	?	15,600

4

The Journals and Control Accounts

Book of Original Entry

The general ledger, which contains the accounts of a business, is referred to as a book of *final* entry. All transactions are first recorded in a book of *original* entry. A book of original entry is known as a *journal.* All transactions are evidenced by business papers such as sales invoices, purchases invoices, remittance advices, and checks. From these papers the transactions are first recorded in a journal. To *journalize* a transaction, the bookkeeper analyzes the entry into its debit and credit elements as explained in Chapter 2. However, instead of recording the debits and credits directly in the general ledger accounts, they are recorded in the journal first. Subsequently, they are transferred to the ledger accounts.

The journal entries are recorded in *chronological* order so that all entries for transactions that occurred on a given date can be readily found. One would need to inspect every account to determine from the ledger all entries that were recorded on a given date. A general ledger account shows only the partial recording of transactions that affect the account. If an account shows a debit in regard to a certain transaction, some other account in the ledger shows an offsetting credit. The complete debit and credit for a transaction appears in a journal entry. The danger of error in the recording of a transaction is reduced. Chiefly for these reasons the bookkeeper uses both a journal and a ledger.

The General Journal

For a business having few transactions, all entries may be recorded in one journal. This journal may be referred to as a *general journal.* The form of such a journal appears below:

Date		Accounts	Ref.	Dr.	Cr.

Recording in a General Journal As an example of how a transaction is recorded in the general journal, let us consider the investment of $1,000 in the business by the owner, Mr. Ack. Cash increases and the Cash account is debited. After entering the date of the transaction, the debit is entered as shown:

1959 Dec.	31	Cash		1,000.00	

Ack, Capital increases, and that account is credited as illustrated:

1959 Dec.	31	Cash		1,000.00	
		Ack, Capital			1,000.00

The credits are indented slightly from the line where the name of the account debited is recorded. Thus, debits and credits are distinguished in the accounts column, as well as in the amount columns. An explanation is written for each transaction to conclude the entry. The complete entry appears as follows:

(1)

1959 Dec.	31	Cash		1,000.00	
		Ack, Capital			1,000.00
		Al Ack invested $1,000 in the Al Ack Realty Sales business			

Posting The process of transferring the accounting entries from the journal to the ledger is called *posting*. To post the transaction journalized above, the general ledger is opened to the Cash account and the debit is posted as follows:

Cash (2)

Date		Explanation	Ref.	Dr.	Date		Explanation	Ref.	Cr.
1959 Dec.	31		1	1,000.00					

The figure 1 is entered in the posting reference column—to the left of the amount column—to indicate that the entry was posted from page 1 of the journal. As soon as the debit has been posted, the number of the Cash account is written in the posting reference column of the journal, as shown below, to indicate that the item has been posted.

(1)

1959 Dec.	31	Cash	2	1,000,00	
		Ack, Capital			1,000.00
		Al Ack invested $1,000 in the Al Ack Realty Sales business			

The general ledger is then opened to the Ack, Capital account and the credit portion of the journal entry is posted.

Ack, Capital (40)

Date		Explanation	Ref.	Dr.	Date		Explanation	Ref.	Cr.
					1959 Dec.	31		1	1,000.00

The figure 1 in the reference column indicates that the entry was posted from page 1 of the journal. The number of the capital account is now entered in the posting reference column of the journal to indicate that the item has been posted. If the bookkeeper is interrupted during the process of posting, the reference numbers in the journal indicate where posting has been stopped. The reference column in the journal is sometimes referred to as L.F., which means ledger folio or page or account number. A reference number in a ledger account enables one to locate readily the journal entry from which the item was posted.

The following is a journal showing all transactions that were entered

directly in the ledger accounts in Chapter 2. The numbers in the posting reference column indicate that all of the journal entries have been posted to the ledger accounts.

(1)

1959					
Dec.	31	Cash	2	1,000.00	
		Ack, Capital	40		1,000.00
		Al Ack invested $1,000 in the Al Ack Realty Sales Business			
1960					
Jan.	2	Equipment	12	600.00	
		Cash	2		600.00
		Purchased equipment for cash			
	6	Equipment	12	200.00	
		Accounts payable	21		200.00
		Purchased equipment on account			
	12	Accounts payable	21	100.00	
		Cash	2		100.00
		Paid one-half of the account payable			
	18	Cash	2	350.00	
		Commissions earned	51		350.00
		Earned and collected a commission			
	20	Accounts receivable	4	450.00	
		Commissions earned	51		450.00
		Commission earned and billed but not collected			
	23	Cash	2	450.00	
		Accounts receivable	4		450.00
		Collection of the account receivable			
	25	Expenses	61	500.00	
		Cash	2		500.00
		Payment of expenses in cash			
	26	Cash	2	400.00	
		Ack, Capital	40		400.00
		Al Ack invested an additional $400 in the business			
	29	Ack, Capital	40	100.00	
		Cash	2		100.00
		Withdrawal by the owner, Al Ack			

The general ledger would now appear as follows:

Cash (2)

1959											
Dec.	31		1	1,000.00							
1960						1960					
Jan.	18		1	350.00		Jan.	2		1	600.00	
	23		1	450.00			12		1	100.00	
	26		1	400.00			25		1	500.00	
		900.00		*2,200.00*			29		1	100.00	
										1,300.00	

Accounts Receivable (4)

1960					1960				
Jan.	20		1	450.00	Jan.	23		1	450.00

Equipment (12)

1960									
Jan.	2		1	600.00					
	6		1	200.00					
		800.00		*800.00*					

Accounts Payable (21)

1960					1960				
Jan.	12		1	100.00	Jan.	6	*100.00*	1	200.00

Ack, Capital (40)

					1959				
					Dec.	31		1	1,000.00
1960					1960				
Jan.	29		1	100.00	Jan.	26		1	400.00
							1,300.00		*1,400.00*

Commissions Earned (51)

					1960				
					Jan.	18		1	350.00
						20		1	450.00
							800.00		*800.00*

Expenses (61)

1960									
Jan.	25	*500.00*	1	500.00					

The names of the column headings have been omitted in the above illustration. These names are the same for every account and they are sometimes omitted in the practice of accounting.

The accounts shown above indicate dates and posting references. Otherwise, they portray the same data as the accounts in Chapter 2. The preparation of the trial balance and the financial statements will not differ from the procedure explained in Chapter 2. The statements and the trial balance will be precisely the same as in Chapter 2. Dates and posting references should always be used for each transaction recorded in a journal or a ledger. The reader should have little difficulty in mastering the recording of dates and posting references. To focus attention on other pertinent data, the dates and references may sometimes be omitted in the illustrations in this text.

Journalizing Closing Entries

The closing entries at the end of the fiscal year must be recorded first in the journal, then posted to the general ledger. Thus, the closing entries for Al Ack Realty Sales, which were recorded directly in the ledger accounts in Chapter 2, would appear first in the general journal as follows:

					(2)
1960 Jan.	31	Commissions earned		800.00	
		Income summary			800.00
		To close the Commissions Earned account			
	31	Income summary		500.00	
		Expenses			500.00
		To close the Expenses account			
	31	Income summary		300.00	
		Ack, Capital			300.00
		To close the Income Summary account			

The absence of numbers in the posting reference column indicates that the above entries have not been posted to the general ledger accounts.

The accounts affected by the closing entries will appear as shown below after the above entries have been posted.

Commissions Earned (51)

1960					1960				
Jan.	31		2	800.00	Jan.	18		1	350.00
						20		1	450.00
									800.00

Expenses (61)

1960					1960				
Jan.	25		1	500.00	Jan.	31		2	500.00

Income Summary (45)

1960					1960				
Jan.	31		2	500.00	Jan.	31		2	800.00
	31		2	300.00					
				800.00					

Ack, Capital (40)

					1959				1	1,000.00
1960					1960					
Jan.	29		1	100.00	Jan.	26			1	400.00
						31			2	300.00
							1,600.00			*1,700.00*

Ruling Closed Accounts

The income and expense accounts are all in balance (closed) after the closing entries are posted. The totals are entered and the accounts are ruled as shown below:

Commissions Earned (51)

1960					1960				
Jan.	31		2	800.00	Jan.	18		1	350.00
						20		1	450.00
				800.00					800.00

Expenses (61)

1960					1960				
Jan.	25		1	500.00	Jan.	31		2	500.00

Income Summary (45)

1960					1960				
Jan.	31		2	500.00	Jan.	31		2	800.00
	31		2	300.00					
				800.00					800.00

The small pencil totals or balances may be erased when an account is ruled, but many accountants prefer to let them stand.

There are, of course, no balances in the income and expense accounts at the start of a new fiscal year. The rulings show clearly where entries for the new year are to start. Balance sheet accounts are not closed at the end of the fiscal year. The balances on hand at the close of a fiscal year in asset, liability, and capital accounts remain unchanged as the new fiscal year is started. However, the transactions of a new fiscal period should be clearly separated from the transactions of the previous fiscal year. This may be done by starting a new general ledger to which

the balances of the asset, liability, and capital accounts are transferred; or it may be done by "balancing" and ruling the balance sheet accounts. In either event, the work is performed without the use of journal entries.

Balancing Real Accounts

If the account has a debit balance, the balance is entered on the credit side. If the account has a credit balance, the balance is entered on the debit side. The totals of the two sides of the balance sheet account will now be equal. These totals are entered along with the rulings shown in the illustration that follows. The balance is then immediately placed below the rulings as shown. An account that had a debit balance before the balancing and ruling now shows that debit balance beneath the double rulings. An account that had a credit balance before the balancing and ruling now shows that credit balance beneath the double rulings. All of the balance sheet accounts that have been illustrated in this chapter are presented below as they appear after they have been balanced and ruled.

Cash (2)

1959											
Dec.	31			1	1,000.00						
1960						1960					
Jan.	18			1	350.00	Jan.	2		1	600.00
	23			1	450.00		12		1	100.00
	26			1	400.00		25		1	500.00
			900.00		*2,200.00*		29		1	100.00
										1,300.00
							31	Balance		900.00
					2,200.00					2,200.00
1960										
Feb.	1	Balance			900.00					

Accounts Receivable (4)

1960						1960					
Jan.	20			1	450.00	Jan.	23		1	450.00

Equipment (12)

1960											
Jan.	2			1	600.00						
	6			1	200.00						
			800.00		*800.00*						

Accounts Payable (21)

1960					1960					
Jan.	12		1	100.00	Jan.	6		*100.00*	1	200.00
	31	Balance		100.00						
				200.00						200.00
					1960					
					Feb.	1	Balance			100.00

Ack, Capital (40)

					1959					
					Dec.	31			1	1,000.00
1960					1960					
Jan.	29		1	100.00	Jan.	26			1	400.00
								1,300.00		*1,400.00*
	31	Balance		1,600.00		31			2	300.00
				1,700.00						1,700.00
					1960					
					Feb.	1	Balance			1,600.00

There are no numbers in the posting reference columns on the lines on which the balances are entered, because the balance of an account is entered directly in the account without the use of journal entry.

An account that has entries on one side only (see the Equipment account above) does not need to be balanced and ruled. Unless a new ledger is used, the asset, liability, and capital accounts should be balanced and ruled at the end of each fiscal year. The procedure is not an absolute requirement, however, since each entry in an account is dated.

The post-closing trial balance is now easily prepared from the above accounts:

	Dr.	Cr.
Cash	$ 900—	
Equipment	800—	
Accounts payable		$ 100—
Ack, Capital		1,600—
Totals	$1,700—	$1,700—

The use of a dash (—) instead of two zeros in the cents columns (see above) is a matter of choice. It is a common practice to use the dash in journals, ledgers, trial balances, and worksheets. It is not commonly used in the preparation of the financial statements.

Journal Closing Entries for Merchandising Business

The closing entries for Ed Eck Piano Store, which were recorded directly in the ledger accounts in Chapter 3, would appear first in the general journal as follows:

PERPETUAL INVENTORY METHOD			PHYSICAL INVENTORY METHOD		
Sales	700		Sales	700	
Income summary		700	Income summary		700
*			*		
Income summary	400		Income summary	2,000	
Cost of goods sold		400	Inventory		2,000
			*		
			Income summary	800	
			Purchases		800
			*		
			Inventory	2,400	
			Income summary		2,400
*			*		
Income summary	200		Income summary	200	
Expenses		200	Expenses		200
*			*		
Income summary	100		Income summary	100	
Ed Eck, Capital		100	Ed Eck, Capital		100

Usually, each type of expense is recorded in a separate expense account. The amounts of some types of expenses, however, may not be of sufficient size to warrant the use of separate expense accounts. These sundry expenses may be recorded in an account entitled "Miscellaneous Expenses." Let us assume that the expenses of $200 paid by Ed Eck Piano Store have been recorded in separate accounts as follows: Rent Expense—$60, Advertising Expense—$40, Insurance Expense—$30, and Miscellaneous Expenses—$70. In this case, the expenses will be deducted in the income statement as shown below:

Gross Profit		$300
Expenses:		
Rent expense	$60	
Advertising expense	40	
Insurance expense	30	
Miscellaneous expenses	70	
Total Expenses		200
Net Income		$100

The journal entry to close the expense accounts will be:

1960					
Dec.	31	Income summary		200.00	
		Rent expense			60.00
		Advertising expense			40.00
		Insurance expense			30.00
		Miscellaneous expenses			70.00

Use of Dollar Signs

Dollar signs should be used in the preparation of the financial statements. A dollar sign should appear to the left of: (1) the first amount in each column, and (2) the first amount beneath an underline. Dollar signs are not used in journals, ledgers, trial balances, and worksheets if the usual practice is followed. A trial balance that is listed on unruled paper may display dollar signs.

Special Journals

If a business has many transactions, it may be expedient to use several *special* journals in addition to the *general* journal described above. Such a business will have numerous transactions that are similar to the extent that they have a common debit or a common credit, or both a common debit and a common credit. These transactions of a similar nature may be recorded in separate books of original entry, or *special journals,* instead of being recorded in the general journal.

Every transaction involving a receipt of cash must be recorded as a *debit* to the Cash account. All such transactions may be recorded in a *cash receipts journal.* All transactions involving a disbursement of cash are recorded as *credits* to the Cash account. They are usually recorded in a special journal called the *cash disbursements journal.* All sales on account are recorded as credits to the Sales account *and* as debits to Accounts Receivable. These transactions may be recorded in a special journal known as the *sales journal.* All purchases on account are recorded as debits to the Purchases account (or the Inventory account under the perpetual inventory method) and as credits to Accounts Payable. The *purchases journal* may be used to record all such transactions.

Transactions in special journals are usually recorded on one line. Explanations are eliminated or reduced greatly in comparison with the general journal explanations. The appearance of an entry in a certain

special journal is often regarded as sufficient explanation of the nature of the transaction. The number of postings is reduced greatly when special journals are used. Several bookkeepers may make use of the *books* of original entry at the same time. The time and space savings can be readily observed in the illustrations that follow.

Sales Journal

The sales journal is a special journal in which all sales of merchandise *on account* are recorded. A sales journal containing all charge sales of an enterprise for one month is illustrated below.

SALES JOURNAL (1)

Date		Customer	Invoice No.	Ref.	Amount
1960					
Jan.	4	Al Arn	1	✓	200.00
	8	Joe Ott	2	✓	100.00
	15	Jim Ash	3	✓	250.00
	20	Al Arn	4	✓	120.00
	22	Red Alt	5	✓	150.00
	29	Art Carr	6	✓	300.00
					1,120.00
					6–50

The total of $1,120 is posted at the *end* of the month as a debit to the Accounts Receivable account and as a credit to the Sales account. This single posting to the general ledger is possible because all entries in the sales journal have a common debit (Accounts Receivable) and a common credit (Sales). The numbers of the Accounts Receivable account and the Sales account are entered below the total to indicate that it has been posted to these accounts. It is assumed that the enterprise began business on January 2, 1960. The Accounts Receivable and the Sales accounts now appear as follows:

Accounts Receivable No. 6

1960 Jan.	31			S1	1,120.00						

Sales No. 50

						1960 Jan.	31			S1	1,120.00

There would probably have been an opening balance in the Accounts Receivable account if the business had been in operation in prior years. The symbol S1 which appears in the reference column of each account indicates that the posting came from page 1 of the sales journal.

Subsidiary Ledgers

The Accounts Receivable account in the general ledger contains the total charges to all customers during the month. It is essential, however, that the records show also the amount charged to *each* customer. An account must be kept with each customer, and it is desirable to keep these accounts as current as possible. These accounts are *not* kept in the general ledger since it shows the total due from customers in one account. They are kept separately in an *accounts receivable ledger.* Debits to these accounts are posted daily from the sales journal. The check mark (✓) in the reference column of the sales journal indicates that posting has been made to the customer's account in the *subsidiary* ledger.

The customers' accounts in the subsidiary accounts receivable ledger might appear as follows after the sales journal entries have been posted:

Al Arn

Date		Items	Ref.	Dr.	Cr.	Balance
1960 Jan.	4		S1	200.00		200.00
	20		S1	120.00		320.00

Joe Ott

Date		Items	Ref.	Dr.	Cr.	Balance
1960 Jan.	8		S1	100.00		100.00

Jim Ash

Date		Items	Ref.	Dr.	Cr.	Balance
1960 Jan.	15		S1	250.00		250.00

Red Alt

Date		Items	Ref.	Dr.	Cr.	Balance
1960 Jan.	22		S1	150.00		150.00

Art Carr

Date		Items	Ref.	Dr.	Cr.	Balance
1960 Jan.	29		S1	300.00		300.00

Control Accounts

The total of the debit entries to the individual customers above equals the $1,120 debit to the Accounts Receivable account in the general ledger. An account in the general ledger having a balance equal to the balances of all of that type of account in a separate ledger is called a *control account.* The separate ledger is known as a *subsidiary ledger.* If a business has only a few customers, the individual accounts may be kept in the general ledger. In such a case, no control account is used and there is no subsidiary ledger.

Balance-Column Account Form

The *balance-column* account form illustrated in the above accounts receivable ledger is very commonly used for general ledger accounts, as well as for subsidiary ledger accounts.

Cash Receipts Journal

The accounts receivable subsidiary ledger accounts and the control account are affected by collections from customers. *All* receipts of cash are usually entered in a special journal known as a *cash receipts journal.* Every such transaction requires a debit to the Cash account. However, there are many different accounts to be credited from transactions involving the receipt of cash. All transactions recorded in the cash receipts journal have a common debit—Cash, but the transactions do not have a

common credit. For this reason, one amount column is insufficient. A cash receipts journal might appear as shown below:

CASH RECEIPTS JOURNAL (1)

Date		Account Credited	Debit	Credits				
			Cash	Accounts Receivable		Sales	Sundry	
				✓	Amount		Ref.	Amount
1960								
Jan.	4	Sales	80.00			80.00		
	11	Sales	60.00			60.00		
	15	Al Arn	200.00	✓	200.00			
	18	Sales	40.00			40.00		
	20	Jones, Capital	150.00				40	150.00
	25	Joe Ott	100.00	✓	100.00			
	28	Jim Ash	50.00	✓	50.00			
	29	Sales	70.00			70.00		
	29	Notes receivable	230.00				7	230.00
			980.00		350.00	250.00		380.00
			2		6	50		

A cash receipts journal may have a great many credit columns. A separate credit column may be used for each account that has several credits during a month. Credits to any accounts that do not have a separate credit column are entered in the sundry credit column. The sundry credit column items are posted individually to the various general ledger accounts involved. The individual postings from the sundry column may be made during the month or at the end of the month. The total of the sundry column is, of course, not posted. The totals of all other columns are posted at the end of the month. Before posting these totals, the equality of debit and credit totals should be proved. The numbers appearing in the reference column under the sundry heading indicate that the item has been posted to the account having that number in the general ledger. The name of the account appears under the account credited column. The numbers were entered at the time the items were posted. The numbers beneath the other columns were entered at the time these totals were posted.

The Cash account now shows a single debit, of $980, for all cash received during the month. The Sales account appears as follows:

Sales No. 50

					1960 Jan.	31			S1	1,120.00
						31			CR1	250.00

The amount of the sales on account ($1,120) was posted from the sales journal. The amount of the cash sales ($250) was posted from the cash receipts journal.

The Accounts Receivable control account is shown below:

Accounts Receivable No. 6

1960 Jan.	31	*770.00*	S1	1,120.00		1960 Jan.	31		CR1	350.00

The symbol CR1 in the above accounts indicates that the postings were made from page 1 of the cash receipts journal.

Accounts Receivable Ledger

The postings of the individual credits to the subsidiary accounts receivable ledger have been made currently during the month. The check marks in the reference column (under the accounts receivable heading) of the cash receipts journal were entered at the time the postings were made. The individual customer accounts in the subsidiary ledger appear as follows at the end of the month.

Al Arn

Date			Ref.	Dr.	Cr.	Balance
1960 Jan.	4		S1	200.00		200.00
	15		CR1		200.00	–0–
	20		S1	120.00		120.00

Joe Ott

Date			Ref.	Dr.	Cr.	Balance
1960 Jan.	8		S1	100.00		100.00
	25		CR1		100.00	–0–

Jim Ash

Date			Ref.	Dr.	Cr.	Balance
1960 Jan.	15		S1	250.00		250.00
	28		CR1		50.00	200.00

Red Alt

Date			Ref.	Dr.	Cr.	Balance
1960 Jan.	22		S1	150.00		150.00

Art Carr

Date			Ref.	Dr.	Cr.	Balance
1960 Jan.	29		S1	300.00		300.00

Since the postings to the above accounts have been made currently, the entries appear in chronological order.

A list of the account balances in the subsidiary accounts receivable ledger is prepared at the end of each month. The total of this list agrees with the balance of the control account in the general ledger.

X ENTERPRISE
Accounts Receivable
January 31, 1960

Al Arn	$120.00
Jim Ash	200.00
Red Alt	150.00
Art Carr	300.00
Total	$770.00

The Accounts Receivable account in the general ledger shows a balance of $770. If the total of the list of account balances in the subsidiary ledger does not agree with the balance of the control account, the error should be promptly discovered and corrected.

Service "Sales" Journal

An enterprise that sells services rather than merchandise may sell such services on a credit basis. Such service "sales" on account may be recorded in a special journal in the same manner as merchandise sales on account. The control account, Accounts Receivable, and the subsidiary accounts receivable ledger may be kept as shown in this chapter. Service sales, however, are not recorded by credits to the Sales account. Various titles are used to designate the revenue from service sales. Some examples are: Commissions Earned, Fees, Fees Earned, and Service Income.

QUESTIONS

1. Why is a journal called a book of original entry?
2. What are the chief reasons for recording transactions in journals?
3. What is *posting*?
4. What is the meaning of the symbol *L.F.*?
5. What is the journal entry for closing an income account?
6. What is the journal entry for closing an expense account?
7. What are the closing journal entries that affect the Inventory account of an enterprise that uses the physical inventory method?
8. (a) Why are real accounts balanced and ruled at the end of the fiscal year? (b) Are journal entries used in the process of balancing and ruling real accounts?
9. What are the advantages of using special journals instead of a single journal?
10. The sales journal that is illustrated in this chapter has only one amount column. Explain why this single column is sufficient.
11. Why does a cash receipts journal have several amount columns?
12. (a) Explain why the total of the sundry credit column of the cash receipts journal is not posted. (b) Why is the total of the sundry credit column of the cash receipts journal determined?
13. (a) What is a control account? (b) What is a subsidiary ledger?
14. Does the sum of the balances of the individual accounts in the subsidiary accounts receivable ledger equal the balance of the Accounts Receivable control account at the end of each day? Explain.

PROBLEMS

Problem 4-1

The transactions for this problem are listed in Problem 1-7 of Chapter 1.

Required:

Record the transactions of Over Realty Sales for the month of June, 1960, in the general journal. Assume a date for each transaction and record the dates in the journal. Identify each transaction by letter.

Problem 4-2

PECK'S PLAZA
Income Statement
For the Year Ended December 31, 1960

Sales		$80,000
Cost of Goods Sold:		
Inventory, January 1, 1960	$17,000	
Purchases	55,000	
Cost of goods available for sale	$72,000	
Inventory, December 31, 1960	14,000	
Cost of Goods Sold		58,000
Gross Profit		$22,000
Expenses:		
Salaries	$ 6,600	
Rent	2,400	
Advertising	1,800	
Insurance	1,500	
Taxes	1,200	
Miscellaneous expenses	2,900	
Total Expenses		16,400
Net Income		$ 5,600

Required:

(A) Prepare the journal closing entries for Peck's Plaza for the year ended December 31, 1960.

(B) Prepare the journal closing entries that would be needed if the perpetual inventory method had been used.

Problem 4-3

R. P. Rider began operating a business known as Rider Services on June 1, 1960. At the end of the month, after posting has been completed, the ledger accounts appear as follows:

Cash (2)

1960				1960			
June 1	1	1,000.00	June 2	1	600.00
14	1	50.00	7	1	90.00
17	1	100.00	29	1	220.00

Accounts Receivable (6)

1960				1960			
June 8	1	100.00	June 17	1	100.00
22	1	300.00			

Equipment (11)

1960							
June 2	1	600.00					
3	1	500.00					

Notes Payable (21)

				1960 June	3	1	500.00

R. P. Rider, Capital (31)

				1960 June	1	1	1,000.00

Service Income (41)

				1960 June	8	1	100.00
					14	1	50.00
					22	1	300.00

Expenses (51)

1960 June	7	1	90.00				
	29	1	220.00				

Income Summary (35)

R. P. Rider decided to adopt a fiscal year ending June 30.

Required:

(A) Journalize the closing entries. (Assume that you are using page 2 of the general journal.)

(B) Reproduce the accounts as they are shown above. Post the closing entries, carefully indicating dates and posting references. Enter the totals and rule each closed account. "Balance" and rule those real accounts that have both debit and credit entries.

Problem 4-4

A schedule of the account balances, as of May 31, 1960, in the subsidiary accounts receivable ledger of Lemon Enterprise appears below:

Ed Mink	$ 300
Ray Mims	500
Ray Earp	200
Fred Rush	600
Total	$1,600

Set up the control account showing the May 31 balance as set forth below:

Accounts Receivable (12)

				Dr.	Cr.	Balance
1960 May	31					1,600.00

Set up the subsidiary ledger accounts (on one page). Use the balance-column account form and show the May 31 balance in each account.

The June transactions of Lemon Enterprise in regard to cash receipts and sales on account are listed below:

1960
June 1—Sold merchandise on account to Ray Earp, Invoice #532, $300.
3—Cash sales, $50.
9—Received $300 from Ed Mink in full of account.
10—Cash sales, $70.
13—Sold merchandise on account to Roy Wills, Invoice #533, $400.
13—Received $200 from Ray Earp, on account.
14—Received from Fred Rush on account, $300.
16—Art Lemon invested an additional $500 in the business.
17—Cash sales, $90.
20—Sold merchandise on account to Ray Earp, Invoice #534, $80.
23—Received $20 for interest on a note receivable.
24—Received from Fred Rush on account, $100.
24—Cash sales, $60.
27—Sold merchandise on account to Fred Rush, Invoice #535, $200.
30—Cash sales, $40.

Required:

(A) Set up the headings for the cash receipts journal and the sales journal exactly as they are shown in the text. Record the above transactions in these two special journals. (Assume that you are recording on page 6 of each special journal.) Each entry that affects an account receivable is to be posted to the subsidiary ledger immediately after the transaction is recorded in the journal.

(B) Post the proper totals of the sales journal and the cash receipts journal to the Sales account and the Accounts Receivable account in the general ledger. (Assume that the number of the Sales account is 61.)

(C) Prepare a schedule of accounts receivable as of June 30, 1960.

SUPPLEMENTARY PROBLEMS

Problem 4-5

The data listed below were taken from the "Income and Expense" columns of the December 31, 1962, worksheet of Mark's Market.

	Dr.	Cr.
Inventory	30,200	
Sales		175,100
Purchases	123,700	
Salaries	17,500	
Rent	4,800	
Advertising	4,000	
Insurance	3,000	
Taxes	2,400	
Miscellaneous expenses	5,600	
Inventory, December 31, 1962		35,100
Net income	19,000	

Required:

(A) Prepare the journal closing entries for Mark's Market for the year ended December 31, 1962.

(B) Prepare the journal closing entries that would be needed if the perpetual inventory method had been used. (Form 1)

Problem 4-6

J. A. Ruler began operating a business on November 1, 1962. At the end of the month, after posting has been completed, the accounts in the general ledger appear as follows:

Cash (2)

1962					1962				
Nov.	1		1	500.00	Nov.	1		1	300.00
	15		1	200.00		1		1	100.00
	21		2	40.00		23		2	380.00
	22		2	450.00		30		2	420.00

Accounts Receivable (11)

1962					1962				
Nov.	6		1	200.00	Nov.	15		1	200.00
	15		1	450.00		22		2	450.00
	28		2	150.00					

Equipment (21)

1962									
Nov.	1		1	300.00					
	2		1	400.00					

Accounts Payable (41)

					1962				
					Nov.	2		1	400.00

J. A. Ruler, Capital (51)

					1962				
					Nov.	1		1	500.00

Fees Earned (61)

			1962 Nov.	6	1	200.00
				15	1	450.00
				21	2	40.00
				28	2	150.00

Expenses (71)

1962 Nov.	1	1	100.00		
	23	2	380.00		
	30	2	420.00		

Income Summary (55)

J. A. Ruler decided to adopt, for the business, a fiscal year ending November 30.

Required:

(A) Journalize the closing entries. (Assume that you are using page 3 of the general journal.)

(B) Reproduce the accounts as they are shown above. Post the closing entries, carefully indicating dates and posting references. Enter the totals and rule each closed account. "Balance" and rule those real accounts that have both debit and credit entries.

(C) The amount of the checks drawn on the business bank account exceeded the deposits. Does the credit balance of the Cash account represent an asset? (Forms 1, 2)

Problem 4-7

A schedule of the account balances, as of June 30, 1963, in the subsidiary accounts receivable ledger of Harter Enterprise appears below:

Paul Bass	$ 170
John Dyke	455
Ted Lyon	315
Ray Sands	200
Total	$1,140

Set up the control account showing the June 30 balance as set forth below:

Accounts Receivable (11)

				Dr.	Cr.	Balance
1963 June	30					1,140.00

Set up the subsidiary ledger accounts (on one page). Use the balance-column account form and show the June 30 balance in each account.

The July transactions of Harter Enterprise in regard to cash receipts and sales on account are listed below:

1963
July 1—Received $315 from Ted Lyon in full of account.
1—Sold merchandise on account to Jim Wolf, Invoice #601, $225.
3—John Harter invested an additional $300 in the business.
5—Cash sales, $65.
9—Sold merchandise on account to Ted Lyon, Invoice #602, $130.
10—Received from John Dyke on account, $255.
12—Cash sales, $45.
17—Sold merchandise on account to Paul Bass, Invoice #603, $75.
18—Received from John Dyke on account, $100.
19—Cash sales, $50.
22—Sold merchandise on account to Ted Lyon, Invoice #604, $200.
23—Received $245 from Paul Bass in full of account.
26—Cash sales, $60.
29—Sold merchandise on account to John Dyke, Invoice #605, $65.
30—Received $15 for interest on a note receivable.
31—Cash sales, $40.

Required:

(A) Set up the headings for the cash receipts journal and the sales journal exactly as they are shown in the text. Record the above transactions in these two special journals. (Assume that you are recording on page 7 of each special journal.) Each entry that affects an account receivable is to be posted to the subsidiary ledger immediately after the transaction is recorded in the journal.

(B) Post the proper totals of the sales journal and cash receipts journal to the Accounts Receivable account in the general ledger.

(C) Prepare a schedule of accounts receivable as of July 31, 1963. (Forms 7, 13, 9)

5

The Journals and Control Accounts (concluded)

Purchases Journal

A purchases journal is similar in many ways to a sales journal. All purchases of merchandise on account are entered in the purchases journal. The total of the amount column is posted to the general ledger at the end of the month as a debit to Purchases and a credit to Accounts Payable. This single posting (one debit and one credit) is possible because all entries in the purchases journal have a common debit (Purchases) and a common credit (Accounts Payable). The Accounts Payable account is a control account. The individual creditor accounts are kept in a separate ledger known as an accounts payable subsidiary ledger. Credits to these accounts are posted daily from the purchases journal. A purchases journal for a month might appear as follows after all entries for the month have been posted.

PURCHASES JOURNAL (1)

Date		Creditor	Invoice Date		Ref.	Amount
1960 Jan.	5	Ace Company	1960 Jan.	4	✓	120.00
	11	Black and Red, Inc.		8	✓	80.00
	18	Club Company		15	✓	100.00
	27	Ace Company		27	✓	60.00
	29	Spade Company		28	✓	130.00
						490.00
						60/30

The Purchases and the Accounts Payable accounts would appear as follows:

Purchases No. 60

Date			Ref.	Dr.	Cr.	Balance
1960 Jan.	31		P1	490.00		

Accounts Payable No. 30

Date			Ref.	Dr.	Cr.	Balance
1960 Jan.	31		P1		490.00	

The symbol P1 that appears in the reference column of each of the above accounts indicates that the entry was posted from page 1 of the purchases journal. The symbols were recorded at the time the postings were made. The check mark (✓) in the reference column of the purchases journal indicates that posting has been made to the creditor's account in the accounts payable subsidiary ledger. The accounts of the individual creditors might appear as follows after postings from the purchases journal have been made.

Ace Company

Date			Ref.	Dr.	Cr.	Balance
1960 Jan.	5		P1		120.00	120.00
	27		P1		60.00	180.00

Black and Red, Inc.

Date			Ref.	Dr.	Cr.	Balance
1960 Jan.	11		P1		80.00	80.00

Club Company

Date			Ref.	Dr.	Cr.	Balance
1960 Jan.	18		P1		100.00	100.00

Spade Company

Date			Ref.	Dr.	Cr.	Balance
1960 Jan.	29		P1		130.00	130.00

Notice that the names of the column headings have been omitted in the account with Spade Company. These names are the same for every balance-column account form, and they will sometimes be omitted in illustrations hereafter. There are no balances in the individual creditor's accounts (or the control account) at the beginning of the year because the enterprise began business on January 2, 1960.

Cash Disbursements Journal

The accounts payable subsidiary ledger accounts and the control account are affected by payments to creditors. All disbursements of cash are entered in a special *cash disbursements journal.* Every such transaction requires a credit to the Cash account. There are many different accounts to be debited from transactions involving the expenditure of cash. All transactions recorded in the cash disbursements journal have a common credit—Cash, but the transactions do not have a common debit. Thus, the cash disbursements journal—like the cash receipts journal—will have many columns. A separate debit column may be used for each account that is to be debited several times each month.

Debits to accounts that do not have a special debit column are entered in the sundry debit column. The sundry debit column items are posted individually to the various general ledger accounts that are involved. These postings may be made currently or at the end of the month. The total of the sundry debit column is not posted. The totals of all other columns are posted at the end of the month. Before posting these totals, the equality of debit and credit totals should be ascertained. A cash disbursements record might appear as shown below:

CASH DISBURSEMENTS JOURNAL (1)

Date		Payee	No.	Credit	Debits					
				Cash	Accounts Payable		Purchases	Sundry		
					✓	Amount		Ref.	Account	Amount
1960										
Jan.	5	M Corporation	1	80.00			80.00			
	6	W Realty Co.	2	90.00				73	Rent	90.00
	13	Ace Company	3	120.00	✓	120.00				
	19	Z Corporation	4	70.00			70.00			
	20	Black and Red, Inc.	5	80.00	✓	80.00				
	28	Daily News	6	10.00				71	Adv.	10.00
				450.00		200.00	150.00			100.00
				2		30	60			

The No. column in the above journal lists the check numbers. Such a cash disbursements journal is sometimes called a check register.

The numbers in the reference column under the sundry heading and the numbers beneath the totals of the specific columns are the numbers of the accounts to which the items were posted. The numbers were entered as each amount was posted.

The Cash account now shows one credit, of $450, for all cash disbursed during the month. The Purchases account appears as follows:

Purchases No. 60

1960 Jan.	31			P1	490.00						
	31			CD1	150.00						

The amount of the purchases on account ($490) was posted from the purchases journal. The amount of the cash purchases ($150) was posted from the cash disbursements journal.

The Accounts Payable control account is shown below:

Accounts Payable No. 30

1960 Jan.	31			CD1	200.00	1960 Jan.	31			P1	490.00

The symbol CD1 in the above accounts indicates that the postings were made from page 1 of the cash disbursements journal.

Accounts Payable Ledger

The balance of the Accounts Payable control account should agree with the total of the balances of the accounts payable subsidiary ledger accounts. Postings to the accounts of the individual creditors have been made currently from the accounts payable debit column of the cash disbursements journal. The check marks under the accounts payable heading were entered as each item was posted. The accounts in the subsidiary ledger now appear as follows:

Ace Company

1960 Jan.	5		P1		120.00	120.00
	13		CD1	120.00		-0-
	27		P1		60.00	60.00

Black and Red, Inc.

1960						
Jan.	11		P1		80.00	80.00
	20		CD1	80.00		–0–

Club Company

1960						
Jan.	18		P1		100.00	100.00

Spade Company

1960						
Jan.	29		P1		130.00	130.00

Since the postings to these accounts have been made currently, the entries are in chronological order. A list of the account balances in the subsidiary accounts payable ledger is prepared at the end of each month. The total of the subsidiary account balances agrees with the balance of the control account in the general ledger.

X ENTERPRISE
Accounts Payable
January 31, 1960

Ace Company	$ 60.00
Club Company	100.00
Spade Company	130.00
Total	$290.00

If the total of the list of account balances in the subsidiary ledger does not agree with the balance of the control account, the error should be promptly discovered and corrected.

Returns and Allowances

The revenue of an enterprise is reduced when merchandise that has been sold is returned by the buyer or when he is granted an allowance from the original price because of dissatisfaction concerning the transaction. The seller may record the amount of the reduction in price as a debit to the Sales account or as a debit to a *Sales Returns and Allowances* account. The buyer may record the amount as a credit to the Purchases account or as a credit to a *Purchases Returns and Allowances* account. The latter procedure in each instance makes information concerning the total amount of returns and allowances readily available. The balance of the Sales Returns and Allowances account is deducted

from the balance of the Sales account to determine *net sales.* The balance of the Purchases Returns and Allowances account is deducted from the balance of the Purchases account to determine *net purchases.*

Net Sales:		Net Purchases:	
Sales	$3,000	Purchases	$2,500
Sales returns and allowances	120	Purchases returns and allowances	100
Net Sales	$2,880	Net Purchases	$2,400

If the amount of the reduction in price for a return or allowance is paid in cash, the following entry is made:

Seller			Buyer		
Sales returns and allowances	20		Cash	20 *	
Cash		20 *	Purchases returns and allowances		20

If the customer has not paid for the goods, he is given credit for the amount of the reduction. He may be given credit instead of cash even though he has paid for the goods. A letter or a business form, known as a *credit memorandum,* is sent to the customer informing him of the credit. The entry to record the credit is:

	SELLER			
	Sales returns and allowances	51	20.00	
	Accounts receivable—B	6/✓		20.00
	Credit Memorandum No. 1			
	BUYER			
	Accounts payable—S	30/✓	20.00	
	Purchase returns and allowances	61		20.00
	Debit Memorandum No. 6			

Any credit entry to a control account must also be recorded as a credit in the subsidiary ledger. Any debit entry to a control account must also be recorded as a debit in the subsidiary ledger. Each of the above entries reduces the balance of the control account and the balance of an individual account in the accompanying subsidiary ledger. The appearance of the number 6 (Seller's books) in the reference column indicates that the credit has been posted to the Accounts Receivable account (No. 6) in the general ledger. The check mark (✓) indicates that the credit has been posted to B's account in the subsidiary ledger of accounts receivable. The appearance of the number 30 (Buyer's books) in the reference column indicates that the debit has been posted

* This entry is actually recorded in the cash journal. It is shown here in general journal form to facilitate the presentation. Henceforth, the general journal form will be used to illustrate many entries that are actually recorded in special journals. Dates, references, and explanations must be recorded. They were omitted here to focus attention of the reader on the remainder of each entry, and to facilitate the presentation. For similar reasons, the ciphers (.00) or the dash (—) that indicate an amount ends in even dollars (no cents) will sometimes be omitted.

to the Accounts Payable account (No. 30) in the general ledger. The check mark (✓) indicates that the debit has been posted to S's account in the subsidiary ledger of accounts payable.

If there are few credit memoranda, the entries are recorded in the general journal. If many credit memoranda are issued, much time and space can be saved if a special journal known as a *sales returns and allowances journal* is used instead of recording the entries in the general journal. If many credit memoranda are received, a special *purchases returns and allowances journal* may be used.

Sales Returns and Allowances Journal A sales returns and allowances journal is shown below:

SALES RETURNS AND ALLOWANCES JOURNAL (1)

Date		Customer	Invoice No.	Cr. Memo No.	Ref.	Amount
1960						
Jan.	8	Joe Green	2	1	✓	20.00
	15	Al Brown	6	2	✓	45.00
	21	Art White	5	3	✓	30.00
	28	Ed Blue	9	4	✓	25.00
						120.00
						51/6

The total of the amount column is posted at the end of the month as a debit to Sales Returns and Allowances, and as a credit to Accounts Receivable. It is necessary to post only the total to the general ledger as all entries in the sales returns and allowances journal have a common debit (Sales Returns and Allowances) and a common credit (Accounts Receivable). The numbers (51/6) beneath the total of the amount column indicate that the total has been posted to the general ledger accounts. The check mark (✓) in the reference column indicates that posting has been made to the customer's account in the accounts receivable subsidiary ledger.

Let us assume that the control account and the subsidiary ledger of a company show accounts receivable in the amount of $1,500 as of the beginning of the new fiscal year, 1960. The account of Joe Green, in the subsidiary accounts receivable ledger, shows a balance of $100. It is further assumed that for January, 1960:

1. Sales on account were $3,000, including a sale in the amount of $90 to Joe Green. There were no cash sales.

2. Cash received from customers in payment of accounts was $2,400, including a remittance by Joe Green in the amount of $100.

3. Credits issued to customers were $120 as shown by the above

sales returns and allowances journal. You will notice that Credit Memorandum No. 1 (amount $20) was issued to Joe Green.

After posting has been completed for the month of January, the Sales account, the Sales Returns and Allowances account, and the Accounts Receivable control account appear as follows:

Sales (50)

					1960 Jan.	31		S1	3,000.00

Sales Returns and Allowances (51)

1960 Jan.	31		SR1	120.00					

Accounts Receivable (6)

1960 Jan.	1	Balance		1,500.00	1960 Jan.	31		CR1	2,400.00
	31		S1	3,000.00		31		SR1	120.00
		1,980.00		*4,500.00*					*2,520.00*

The account of Joe Green in the subsidiary accounts receivable ledger appears as shown below:

Joe Green

				Dr.	Cr.	Bal.
1960 Jan.	1	Balance		100.00		100.00
	5		CR1		100.00	–0–
	6		S1	90.00		90.00
	8		SR1		20.00	70.00

The symbol SR1 indicates that the posting was made from page 1 of the sales returns and allowances journal. You will observe that the Sales Returns and Allowances account has a debit balance. There will be no credits in this account except for the closing entry at the end of the fiscal year unless correcting entries are necessary.

The items that affect Joe Green's account in the subsidiary accounts receivable ledger affect the Accounts Receivable control account in the same way. The $100 balance of Joe Green's account as of January 1, 1960, is a part of the $1,500 balance in the control account as of that date. The $100 credit (CR1) that was posted to Green's account on January 5 (daily posting to subsidiary accounts) is a part of the $2,400 credit posted to the control account from the cash receipts journal at the

end of the month. The $90 debit (S1) that was posted to Green's account on January 6 is included in the $3,000 debit posted to the control account from the sales journal at the end of the month. The $20 credit (SR1) that was posted to Green's account on January 8 is included in the $120 credit posted to the control account from the sales returns and allowances journal at the end of the month. The $70 balance of Joe Green's account as of January 31, 1960, is a part of the $1,980 balance of the Accounts Receivable control account as of that date.

Purchases Returns and Allowances Journal A purchases returns and allowances journal is shown below:

PURCHASES RETURNS AND ALLOWANCES JOURNAL (1)

Date		Creditor	Dr. Memo No.	Ref.	Amount
1960					
Jan.	5	A Corporation	1	✓	20.00
	12	B Corporation	2	✓	35.00
	20	C Corporation	3	✓	15.00
	28	D Corporation	4	✓	30.00
					100.00
					30/61

The enterprise that uses the above purchases returns and allowances journal prepares a business paper known as a *debit memorandum* for each reduction in purchase invoice price to which the business is entitled because of purchases returns and allowances. Each debit memorandum is recorded in the purchases returns and allowances journal. When the credit memorandum is received from the creditor, it is *not* recorded but it is filed, as supporting evidence, with the debit memorandum that it *matches.* If the amount of the reduction in price is known, a debit memorandum may be prepared before the matching credit memorandum is received. If not, it may be prepared after the credit memorandum is received. Many businesses do not prepare debit memoranda. In such cases, the credit memoranda received are the bases for the entries in the purchases returns and allowances journal.

The total of the amount column of the purchases returns and allowances journal is posted at the end of the month as a debit to Accounts Payable and as a credit to Purchases Returns and Allowances. It is necessary to post only the total to the general ledger as all entries in the journal have a common debit (Accounts Payable) and a common credit (Purchases Returns and Allowances). The numbers (30/61) beneath the total of the amount column indicate that the total has been posted to the general ledger accounts. The check mark (✓) in the reference

column indicates that posting has been made to the creditor's account in the accounts payable subsidiary ledger.

Let us assume that the control account and the subsidiary ledger of a company show accounts payable in the amount of $1,200 as of the beginning of the new fiscal year, 1960. The account of A Corporation, in the subsidiary accounts payable ledger, shows a balance of $80. It is further assumed that for January, 1960:

1. Purchases on account were $2,500, including a purchase from A Corporation in the amount of $40. There were no cash purchases.

2. Cash disbursed to creditors in payment of accounts was $2,000, including a remittance to A Corporation in the amount of $60.

3. Debit memoranda in the amount of $100 were prepared during the month as shown by the above purchases returns and allowances journal. You will notice that Debit Memorandum No. 1 (amount $20) applies to the A Corporation.

After posting has been completed for the month of January, the Purchases account, the Purchases Returns and Allowances account and the Accounts Payable control account appear as follows:

Purchases (60)

1960 Jan.	31		P1	2,500.00						

Purchases Returns and Allowances (61)

					1960 Jan.	31		PR1	100.00

Accounts Payable (30)

1960 Jan.	31		CD1	2,000.00	1960 Jan.	1	Balance		1,200.00
	31		PR1	100.00		31		P1	2,500.00
				2,100.00			*1,600.00*		*3,700.00*

The account of A Corporation in the subsidiary accounts payable ledger appears as follows:

A CORPORATION

				Dr.	Cr.	Bal.
1960 Jan.	1	Balance			80.00	80.00
	5		PR1	20.00		60.00
	13		P1		40.00	100.00
	20		CD1	60.00		40.00

The symbol PR1 indicates that the posting was made from page 1 of the purchases returns and allowances journal. You will observe that the Purchases Returns and Allowances account has a credit balance. There will be no debits in this account except for the closing entry at the end of the fiscal year, unless correcting entries are necessary.

The items that affect A Corporation's account in the subsidiary accounts payable ledger affect the Accounts Payable control account in the same way. The $80 balance of A Corporation's account as of January 1, 1960, is a part of the $1,200 balance in the control account as of that date. The $20 debit (PR1) that was posted to A Corporation's account on January 5 is a part of the $100 debit posted to the control account from the purchases returns and allowances journal at the end of the month. The $40 credit (P1) that was posted to A Corporation's account on January 13 is included in the $2,500 credit posted to the control account from the purchases journal at the end of the month. The $60 debit (CD1) that was posted to A Corporation's account on January 20 is included in the $2,000 debit posted to the control account from the cash disbursements journal at the end of the month. The $40 balance of A Corporation's account as of January 31, 1960, is a part of the $1,600 balance of the Accounts Payable control account as of that date.

Summary of the Journals

A summary of the journals that have been illustrated appears below:

Journal	*Transactions Recorded*
S—Sales	All sales of merchandise on account
P—Purchases	All purchases of merchandise on account
CR—Cash Receipts	All receipts of cash
CD—Cash Disbursements	All disbursements of cash
SR—Sales Returns and Allowances	All sales returns and allowances
PR—Purchases Returns and Allowances	All purchases returns and allowances
J—General	All other transactions

Terminology for Special Journals

The special journals are sometimes referred to as books, records, or registers. For example, a sales journal is sometimes called a sales book, a sales record, or a sales register. Some bookkeepers use symbols other

than those listed above. For example, SRA or SA may be used as a symbol for the sales returns and allowances journal. The symbol that is used to designate a particular journal in a business should be used without variation.

Alphabetical Filing of Subsidiary Ledger Accounts

The accounts receivable subsidiary ledger accounts in Chapter 4 were listed on one page in the order in which they appeared in the sales journal. Usually, each account in the accounts receivable subsidiary ledger is kept on a separate sheet. The sheets (or accounts) are commonly kept in a loose-leaf binder or in a filing tray. The accounts are filed in alphabetical order. The accounts payable subsidiary ledger is kept in the same manner.

Advantages of Control Accounts

The chief advantages of keeping subsidiary ledger accounts with a control account in the general ledger are:

1. Information as to the total accounts receivable and accounts payable (or other control accounts) is readily available.
2. If an undiscovered error has been made in some account, the search is confined to a smaller number of accounts.
3. Several bookkeepers may work on the accounts at the same time.

Variations in Special Journals

An explanation column did not appear in any of the special journals illustrated in Chapters 4 and 5. Such a column may be used in each special journal if it is desirable. Information concerning a transaction can be found by inspection of the business paper which is kept on file. Information in addition to that shown by the special journals illustrated in Chapters 4 and 5 may be included in the special journals if it is worthwhile. Some accountants believe that it is desirable to record the terms of each purchase in the purchases journal while others would rather obtain this information, when and if it is needed, from the purchase invoice itself. Special filing methods may expedite this latter procedure. The number of columns and the arrangement of the columns in a special journal for one enterprise may differ from that of another. There may be variation in size, contents, and arrangement.

The Accounting Cycle

The process of journalizing a transaction may be summarized as follows:

1. Determine the accounts affected.
2. Classify these accounts as:
   (a) Assets
   (b) Liabilities
   (c) Capital
   (d) Income
   (e) Cost of Goods Sold
   (f) Expense
3. Determine how these accounts are affected as to increases and decreases.
4. Apply the accounting rules for debiting and crediting accounts to determine the complete journal entry.
5. Determine which journal to use in recording the transaction.

Journalizing is the first step in the accounting cycle. The cycle consists of the following procedures:

1. Journalize the transactions from the business papers.
2. Post to the general ledger and to the subsidiary ledgers.
3. Prepare a trial balance of the general ledger and schedules of the subsidiary ledgers.
4. Prepare a worksheet.
5. Prepare the financial statements.
6. Close the books.
7. Prepare a post-closing trial balance.

These procedures are the same regardless of whether a business sells products or services.

QUESTIONS

1. The purchases journal that is illustrated in this chapter has only one amount column. Explain why this single amount column is sufficient.
2. Why does a cash disbursements journal have several amount columns?
3. Does the sum of the balances of the individual accounts in the subsidiary accounts payable ledger equal the balance of the Accounts Payable control account at the end of each day? Explain.
4. How are sales returns and allowances shown in the income statement?
5. How are purchases returns and allowances shown in the income statement?
6. Define the following terms: (a) Net sales. (b) Net purchases.

7. What business forms are the bases for debits to the Sales Returns and Allowances account?
8. What business forms are the bases for credits to the Purchases Returns and Allowances account?
9. (a) May the credit memoranda that are issued be recorded by entries in the general journal? (b) Why should a sales returns and allowances journal be maintained in an enterprise that issues many credit memoranda?
10. (a) May sales returns and allowances be recorded as debits to the Sales account? (b) Why are sales returns and allowances commonly recorded as debits to an account entitled Sales Returns and Allowances?
11. What are the chief advantages of maintaining subsidiary ledger accounts with a control account in the general ledger over keeping the individual accounts (that constitute the subsidiary ledger) in the general ledger?
12. List the procedures that constitute the accounting cycle.
13. Summarize the process of *journalizing* a transaction.

PROBLEMS

Problem 5-1

Ray Good, the owner of Good Wholesale Candies, completed the following transactions for the enterprise during the month of January, 1961.

1961

Jan. 3—Transferred $5,000 from his personal savings account to a new checking account in the name of Good Wholesale Candies to start the business.
3—Issue Check #1 to Oak Equipment Co. for equipment, $1,500.
3—Purchased equipment on account from Lex Equipment Co., $900.
4—Issued Check #2 to Pae Realty Co. for January rent, $200.
4—Purchased candy on account from Shell Candy Co., $950.
5—Purchased candy on account from Wood Candy Co., $800.
6—Issued Check #3 to Dall Advertising Co. for advertising, $180.
6—Cash sale, $150.
9—Purchased candy on account from Pure Candy Co., $600.
10—Sold candy on account to Best Candies, Invoice #1, $700.
11—Issued Check #4 to Ken Clark for miscellaneous expenses, $45.
13—Sold candy on account to Sweet Candies, Invoice #2, $1,100.
16—Received a credit memorandum from Wood Candy Co. for candy returned, $100.
17—Cash sale, $90.
17—Issued Check #5 to Mrs. Ed Grode for homemade candy, $90 (cash purchase).
19—Sold candy on account to Dill Candies, Invoice #3, $720.
20—Issued Check #6 to Shell Candy Co. in payment of purchase of January 4, $950.
20—Issued a credit memorandum to Sweet Candies for candy returned, $80.
23—Issued Check #7 to Max More for homemade candy, $96 (cash purchase).
23—Issued Check #8 to Ray Good for miscellaneous expenses of the business, $65.

1961

Jan. 24—Issued Check #9 to Ray Good for personal use, $300.
24—Issued Check #10 to Wood Candy Co. on account, $350.
24—Received check from Best Candies in payment of Invoice #1, $700.
26—Sold candy on account to Sweet Candies, Invoice #4, $400.
27—Issued Check #11 to Pure Candy Co. in payment of purchase of January 9, $600.
27—Purchased candy on account from Pure Candy Co., $450.
27—Received check from Sweet Candies on account, $820.
30—Cash sale, $50.
31—Issued Check #12 to Bill Rude for salary, $250.

The following journals are used to record the transactions for Good Wholesale Candies: cash receipts journal, cash disbursements journal, sales journal, purchases journal, and general journal. The forms and headings of the special journals are the same as those shown in the text in Chapters 4 and 5.

The following general ledger accounts are used to record the January transactions:

Account	No.	Account	No.
Cash	1	Sales	31
Accounts receivable	3	Sales returns and allowances	32
Inventory	6	Purchases	36
Equipment	11	Purchases returns and allowances	37
Accounts payable	21	Salaries	40
Ray Good, Capital	26	Advertising expense	41
Income summary	28	Rent expense	43
		Miscellaneous expenses	44

Balance-column account forms are used in the general ledger and in the subsidiary ledgers.

The physical inventory method is used. The January 31, 1961, inventory is $780.

Ray Good decided to adopt a fiscal year ending January 31.

Required:

(A) Record the transactions of Good Wholesale Candies for the month of January, 1961, in the journals. Write "Page 1" at the top of each journal. Each entry that affects a subsidiary ledger account is to be posted to the proper account in the subsidiary ledger immediately after the transaction is recorded in the journal. Set up all accounts receivable subsidiary ledger accounts on one page. Set up all accounts payable subsidiary ledger accounts on another page.

(B) After the journals have been completed, make all postings to the general ledger accounts. Carefully record all dates and posting references.

(C) Prepare a trial balance, a schedule of accounts receivable, and a schedule of accounts payable.

(D) Prepare a worksheet.

(E) Prepare an income statement, a statement of capital, and a balance sheet.

(F) Record the closing entries in the general journal and post them to the ledger accounts.

(G) Prepare a post-closing trial balance.

Problem 5-2

All payments for Allers Chain Store are made by check. A survey of the cash disbursements record of last month reveals:

Accounts Debited	Number of Checks Written
Accounts payable	12
Rent expense	9
Equipment	8
Purchases	2
Sundry accounts (one check each)	6
Total	37

Required:

Prepare the headings for a new cash disbursements record.

Problem 5-3

As of January 1, 1963, the Accounts Receivable and Accounts Payable control accounts of Ladar Corporation appear as follows:

Accounts Receivable

				Dr.	Cr.	Balance
1963 Jan.	1					52,421.07

Accounts Payable

				Dr.	Cr.	Balance
1963 Jan.	1					41,551.20

The January, 1963, transactions that affected Accounts Receivable and Accounts Payable are summarized below:

Sales of merchandise on account	$39,434.50
Purchases of merchandise on account	32,240.68
Purchases of equipment on account	4,500.00
Credit memoranda issued for items returned by customers	624.00
Credit memoranda received for items returned to vendors	444.20
Cash received from debtors in payment of accounts	40,216.29
Cash disbursed to creditors in payment of accounts	31,548.16

The Company maintains a sales returns and allowances journal and a purchases returns and allowances journal.

Required:

Show the control accounts as they appear after the January items have been posted. Indicate by symbols the journals from which the postings were made. Show the January 31, 1963, balances.

SUPPLEMENTARY PROBLEMS

Problem 5-4

Using the data presented below, prepare income statements for the El Company:

(A) For the year ended December 31, 1961.
(B) For the year ended December 31, 1962.

	Year Ended December 31	
	1962	1961
Inventory, January 1	?	?
Inventory, December 31	$ 6,500	$ 6,200
Sales returns and allowances	450	270
Purchases returns and allowances	700	400
Gross Profit	11,450	14,450
Sales	?	48,870
Net Income	200 *	2,020
Purchases	34,850	34,130
Expenses	?	?

* Indicates a net loss.

(Form 3)

Problem 5-5

Bill Dagar, the owner of Dagar Wholesale Cigars, completed the following transactions for the enterprise during the month of December, 1963.

1963

Dec. 2—Transferred $2,000 from his personal savings account to a new checking account in the name of Dagar Wholesale Cigars to start the business.
2—Purchased equipment on account from Rice Equipment Co., $1,200.
2—Issued Check #1 to Ware Realty Co. for December rent, $150.
2—Issued Check #2 to Regan Supply Co. for supplies expected to be consumed during December, $120.
2—Purchased cigars on account from Elmer Cigar Co., $350.
3—Issued Check #3 to Sesta Ad Co. for advertising, $150.
4—Purchased cigars on account from Jose Cigar Co., $390.
5—Issued Check #4 to Bill Dagar for miscellaneous expenses of the business, $50.
6—Cash sales, $80.
9—Sold cigars on account to Super Shop, Invoice #1, $300.
10—Received a credit memorandum from Elmer Cigar Co. for cigars returned, $30.
11—Issued Check #5 to John Morga for cigars, $20 (cash purchase).
12—Sold cigars on account to Jordal Cigars, Invoice #2, $320.
13—Cash sales, $70.
13—Purchased cigars on account from Reach Cigar Co., $200.
16—Sold cigars on account to Leeds Cigars, Invoice #3, $180.
17—Issued Check #6 to Elmer Cigar Co. in payment of account, $320.
19—Issued Check #7 to Jim Rolla for cigars, $30 (cash purchase).

1963

Dec. 19—Issued a credit memorandum to Jordal Cigars for cigars returned, $20.
20—Issued Check #8 to Jose Cigar Co. on account, $200.
20—Cash sales, $90.
23—Received check from Super Shop in payment of Invoice #1, $300.
24—Sold cigars on account to Super Shop, Invoice #4, $280.
26—Purchased cigars on account from Elmer Cigar Co., $240.
27—Sold cigars on account to Louis Tobacco Shop, Invoice #5, $225.
27—Issued Check #9 to John Morga for cigars, $30.
27—Cash sales, $60.
30—Issued Check #10 to Bill Dagar for miscellaneous expenses of the business, $65.
30—Issued Check #11 to Bill Dagar for personal use, $100.
30—Issued Check #12 to Rice Equipment Co. on account, $600.
30—Received check from Jordal Cigars on account, $150.
30—Received check from Leeds Cigars in payment of Invoice #3, $180.
31—Issued Check #13 to Jack Dolle for December salary, $250.

The following journals are used to record the transactions for Dagar Wholesale Cigars: cash receipts journal, cash disbursements journal, sales journal, purchases journal, and general journal. The forms and headings of the special journals are the same as those shown in the text in Chapters 4 and 5.

Bill Dagar decided to adopt a fiscal year ending December 31. The physical inventory method is used. The December 31, 1963, inventory is $300.

Balance-column account forms are used in the general ledger and in the subsidiary ledgers.

The following general ledger accounts are used to record the December transactions:

Account	No.	Account	No.
Cash	1	Sales	51
Accounts receivable	6	Sales returns and allowances	52
Inventory	11	Purchases	56
Equipment	16	Purchases returns and allowances	57
Accounts payable	31	Salaries	60
Bill Dagar, Capital	41	Advertising expense	61
Income summary	42	Rent expense	62
		Supplies expense	63
		Miscellaneous expenses	65

Required:

(A) Record the transactions of Dagar Wholesale Cigars for the month of December, 1963, in the journals. Write "Page 1" at the top of each journal. Each entry that affects a subsidiary ledger account is to be posted to the proper account in the subsidiary ledger immediately after the transaction is recorded in the journal. Set up all accounts receivable subsidiary ledger accounts on one page. Set up all accounts payable subsidiary ledger accounts on another page.

(B) After the journals have been completed, make all postings to the general ledger accounts. Carefully record all dates and posting references.

(C) Prepare a schedule of accounts receivable and a schedule of accounts payable.

(D) Prepare a worksheet.
(E) Prepare an income statement, a statement of capital, and a balance sheet.
(F) Record the closing entries in the general journal and post them to the ledger accounts.
(G) Prepare a post-closing trial balance. (Forms 9, 11, 13, 1, 7, 10, 3)

6

Forms of the Business Unit

THE accounting cycle is the same regardless of the form of the business unit. The three commonest forms of business organization are: (1) the individual enterprise (the sole proprietorship), (2) the partnership, and (3) the corporation. The individual enterprise is owned by one person. His primary objective is to earn income (profit) and, thus, to increase his proprietorship. If losses are incurred, his proprietorship decreases. The partnership is an association of two or more persons to carry on, as co-owners, a business for profit.[1] If profits are earned, the proprietorship, or capital, of each partner is increased. If losses are incurred, the proprietorship of each partner is decreased. The corporation is "an artificial entity, invisible, intangible and existing only in contemplation of law."[2] The ownership of a corporation is evidenced by shares of stock which may be in the hands of a very great number of stockholders. Profits of a corporation increase its proprietorship and, therefore, the "ownership" of the stockholders. Losses of a corporation decrease its net worth (capital or proprietorship) and, therefore, the equity of the stockholders.

Statements of Capital

The statements of income and expense of an individual enterprise, a partnership, and a corporation might be the same or very similar. The balance sheets of the three organizations might show the same or very similar assets and liabilities. The capital section of the balance sheet,

[1] Uniform Partnership Act.

[2] Definition given, in 1819, by Chief Justice Marshall in the Dartmouth College case decision.

however, will differ for each type of the business unit. The proprietor's equity (capital) section of the balance sheet of an individual enterprise shows the balance of the capital account of the proprietor, but the partners' equity (capital) section of the balance sheet of a partnership presents the balance of the capital account of each partner.

Let us assume that the capital account of Fred Love, a sole proprietor, appears, after the books are closed at the end of 1960, as follows.

FRED LOVE, CAPITAL

				Dr.	Cr.	Balance
1960						
Jan.	1	Balance			50,000.00	50,000.00
Nov.	30	(Withdrawal)	CD8	5,000.00		45,000.00
Dec.	31	(Net income)	J3		6,000.00	51,000.00

It is further assumed that the capital accounts of the partners of the Blue-Black Partnership appear, after the books are closed at the end of 1960, as shown below.

JOHN BLUE, CAPITAL

				Dr.	Cr.	Balance
1960						
Jan.	1	Balance			35,000.00	35,000.00
Mar.	31	(Withdrawal)	CD4	2,000.00		33,000.00
Dec.	31	(Net income)	J5		4,000.00	37,000.00

FRANK BLACK, CAPITAL

				Dr.	Cr.	Balance
1960						
Jan.	1	Balance			25,000.00	25,000.00
Aug.	31	(Withdrawal)	CD9	5,000.00		20,000.00
Dec.	31	(Net income)	J5		4,000.00	24,000.00

The capital sections of the balance sheets of the individual proprietorship and the partnership are contrasted below:

Individual Proprietorship		Partnership		
Capital:		Capital:		
Fred Love	$51,000	John Blue	$37,000	
		Frank Black	24,000	
		Total Capital		$61,000

The statements of capital of the two organizations are shown below. They are shown side-by-side to facilitate comparison.

FRED LOVE
Statement of Capital
For the Year Ended Dec. 31, 1960

Balance, Jan. 1, 1960	$50,000
Net income for 1960	6,000
Total	$56,000
Withdrawals for 1960	5,000
Balance, Dec. 31, 1960	$51,000

BLUE-BLACK PARTNERSHIP
Statement of Capital
For the Year Ended Dec. 31, 1960

	Blue	Black	Total
Balance, Jan. 1, 1960	$35,000	$25,000	$60,000
Net income for 1960	4,000	4,000	8,000
Total	$39,000	$29,000	$68,000
Withdrawals for 1960	2,000	5,000	7,000
Balance, Dec. 31, 1960	$37,000	$24,000	$61,000

Closing the Income Summary Account in the Three Common Forms of Business Organization

The process of closing all income, cost, and expense accounts into an Income Summary account is the same for all three common forms of business organizations. The account and the amount of net income might be the same for an individual enterprise, a partnership, or a corporation.

Let us assume that the Income Summary account indicates a net income of $10,000. In an individual enterprise this account is closed by the following entry:

1960 Dec.	31	Income summary		10,000.00	
		X, Capital			10,000.00
		To close the Income Summary account			

If the business is a partnership, the net income is divided in accordance with the partnership agreement. If Y is to receive 60% of net income and Z is to receive 40%, the entry to close the summary account is:

1960 Dec.	31	Income summary		10,000.00	
		Y, Capital			6,000.00
		Z, Capital			4,000.00
		To close the Income Summary account			

In a sole proprietorship or in a partnership, assets are invested by the owners and the capital accounts are credited. In a corporation, shares

of stock are issued to investors in exchange for cash or other assets. The corporation is a legal entity, separate and distinct from the shareholders. There are usually many shareholders, but sometimes there are very few. Regardless of the number of shareholders, the credits for amounts invested are usually recorded in one account entitled *Capital Stock.* This account does not reflect earnings of the company nor dividends paid by the company. Earnings and dividends are recorded in a separate account entitled *Retained Earnings* or *Earned Surplus.* The entry to close the Income Summary account of a corporation that has a net income of $10,000 is as follows:

1960 Dec.	31	Income summary		10,000.00	
		Retained earnings (or Earned surplus)			10,000.00
		To close the Income Summary account			

Statement of Retained Earnings

Let us assume that at formation the A Corporation received $50,000 from investors in exchange for capital stock. The first year of operations resulted in net income of $4,000. The corporation paid a dividend of $1,000 at the end of the year. The owners' equity, or capital, would be shown in two accounts as follows:

Capital Stock

			Dr.	Cr.	Balance
1960 Jan.	2	CR1		50,000.00	50,000.00

Retained Earnings

			Dr.	Cr.	Balance
1960 Dec.	31	CD8	1,000.00		
	31	J7		4,000.00	3,000.00

A statement of retained earnings, instead of a statement of capital, is prepared for a corporation. Such a statement for the A Corporation appears below:

A CORPORATION
Statement of Retained Earnings
For the Year Ended December 31, 1960

Balance, January 1, 1960	$ –0–
Net income for 1960	4,000.00
Total	$4,000.00
Dividends paid during 1960	1,000.00
Balance, December 31, 1960	$3,000.00

If a corporation has been in existence prior to the period covered by the statement, the balance of retained earnings as of the first day of the period is shown first in the statement as illustrated above. Since the A Corporation was formed at the beginning of 1960, it has no retained earnings at the beginning of the year. It would be better, under these circumstances, to omit the first line (Balance, January 1, 1960 . . . $–0–) from the statement. The beginning balance is usually a positive amount but it may be a negative amount or zero. The beginning balance shown in the statement of retained earnings of the A Corporation for the year ended December 31, 1961, will be $3,000.

The essential difference between a statement of capital (prepared for an individual enterprise or a partnership) and a statement of retained earnings (prepared for a corporation) is that the latter statement does not include amounts invested by the shareholders, while the former statement does include amounts invested by the owners.

Withdrawals

The withdrawals made during a year by a sole proprietor or by a partner are usually debited to a separate account rather than to his capital account. This separate account may be entitled, *X, Drawing* or *X, Personal.* The balance of such an account at the end of a year is the amount of withdrawals for the year. If the separate account is not used, an analysis of the X, Capital account is necessary to determine the amount of withdrawals. If the drawing account is used, the balance of the X, Capital account at the end of the year, before closing entries, is the same as it was at the beginning of the year unless additional investments have been made during the year. Additional investments, if any, are credited to the X, Capital account.

Let us assume that R, an individual proprietor, began the year 1960 with a balance of $25,000 in his capital account. He made no additional investments during the year but he withdrew $1,000 in May and another

$1,000 in December. His net worth (capital) accounts would appear as follows at the time the trial balance is prepared.

R, Capital

				Dr.	Cr.	Balance
1960 Jan.	1	Balance			25,000.00	25,000.00

R, Drawing

				Dr.	Cr.	Balance
1960 May	31		CD5	1,000.00		1,000.00
Dec.	31		CD12	1,000.00		2,000.00

The balance of the R, Capital account would be $23,000 if the withdrawals had been debited to that account. An analysis of the R, Capital account would have been necessary to determine the amount of the withdrawals and the beginning balance. The preparation of a statement of capital is facilitated if a drawing account has been used, because that statement shows the beginning balance of capital and the amount of the withdrawals as well as the net income and additional investments (if any).

Alternative Closing of Net Income

If the net income of R's business for the year 1960 is $2,400, the entry to close the Income Summary account may be as follows:

1960 Dec.	31	Income summary		2,400.00	
		R, Capital			2,400.00
		To close the Income Summary account to the R, Capital account			

Withdrawals are a reduction of capital and the drawing account is closed at the end of each fiscal year to the capital account. The entry to close the above drawing account is:

1960 Dec.	31	R, Capital		2,000.00	
		R, Drawing			2,000.00
		To close the R, Drawing account to the R, Capital account			

An alternative method is to transfer the net income to the drawing account instead of directly to the capital account:

1960 Dec.	31	Income summary		2,400.00	
		R, Drawing			2,400.00
		To close the Income Summary account to the R, Drawing account			

After the above entry is posted the R, Drawing account will appear as follows:

R, Drawing

				Dr.	Cr.	Balance	
1960							
May	31		CD5	1,000.00		1,000.00	
Dec.	31		CD12	1,000.00		2,000.00	
	31		J8		2,400.00	400.00	Cr.

This procedure permits a ready comparison between net income for the year and the withdrawals made during the year. It is a common practice to make withdrawals during a year in anticipation of profit being earned during that year; for this reason many accountants believe that the net income should be closed to the drawing account. The drawing account is then closed by the following entry:

1960 Dec.	31	R, Drawing		400.00	
		R, Capital			400.00
		To close the R, Drawing account to the R, Capital account			

You will notice that the transfer of the net income, in the amount of $2,400, to the drawing account changed the balance of the drawing account from a debit of $2,000 to a credit of $400. Thus, the entry to close the drawing account to the capital account is a debit of $400 to the R, Drawing account and a credit of that amount to R, Capital. The capital and drawing accounts appear as follows (page 110) after the books are closed.

Under either Method 1 or 2, the final balance at the end of the year in the capital account is the same ($25,400). Under either method, the final balance at the end of the year in the drawing account is zero. Both methods are applicable to partnerships, as well as to individual enter-

METHOD 1

R, Capital

				Dr.	Cr.	Bal.
1960						
Jan.	1	Balance			25,000	25,000
Dec.	31		J4		2,400	
	31		J4	2,000		25,400

R, Drawing

				Dr.	Cr.	Bal.
1960						
May	31		CD5	1,000		1,000
Dec.	31		CD12	1,000		2,000
	31		J4		2,000	–0–

METHOD 2

R, Capital

				Dr.	Cr.	Bal.
1960						
Jan.	1	Balance			25,000	25,000
Dec.	31		J4		400	25,400

R, Drawing

				Dr.	Cr.	Bal.
1960						
May	31		CD5	1,000		1,000
Dec.	31		CD12	1,000		2,000
	31		J4		2,400	
	31		J4	400		–0–

prises. A partnership ledger will have two or more capital accounts and two or more drawing accounts.

Dividends

As withdrawals in an unincorporated business may be recorded in a separate drawing account, dividends in a corporate business may be recorded in a separate dividend account. A partnership ledger will have a separate drawing account for each partner who makes withdrawals. In a corporation, the entire amount of a dividend is debited to one account regardless of the number of shareholders. Some accountants prefer to debit the amount of the dividend to the Retained Earnings account. If a separate dividend account is used, it is entitled *Dividends* or *Dividends Paid.* Such an account might appear as follows, assuming that dividends of $1,000 each quarter were paid by the corporation.

DIVIDENDS

				Dr.	Cr.	Balance
1960						
Mar.	31		CD10	1,000.00		1,000.00
June	30		CD19	1,000.00		2,000.00
Sept.	30		CD30	1,000.00		3,000.00
Dec.	31		CD41	1,000.00		4,000.00

When a separate dividend account is in use, the balance appearing in the Retained Earnings account at the time of preparation of the trial balance is the amount of retained earnings as of the beginning of the year. When dividends are debited directly to the Retained Earnings account, it is necessary to analyze that account to determine the beginning balance of retained earnings and the amount of dividends paid during the year. Thus, the preparation of the statement of retained earnings is facilitated when a separate dividend account is maintained.

The separate dividend account is closed at the end of the fiscal year to the Retained Earnings account. The entry to close the Dividends account that appears above is as follows:

1960					
Dec.	31	Retained earnings		4,000.00	
		Dividends			4,000.00
		To close the Dividends account to the Retained Earnings account			

Worksheet Comparison of Capital Accounts

Illustrations on pages 114–115 reveal the essential differences between worksheets for each of the three common forms of business organization. The worksheets are partial, showing only those accounts that vary with the form of the business unit. The figures are not related to other illustrations in the chapter.

Similarity of the Accounts, the Worksheet, and the Statements

Worksheets are devices for facilitating the preparation of financial statements. The first two amount columns on a worksheet list the balances of each account in the general ledger (a trial balance). These amounts are extended across the worksheet to the columns representing the proper statement. Thus, a worksheet shows information taken from the general ledger accounts and it shows the detail of the financial statements which are prepared from the worksheet. The ledger accounts, the worksheet, and the financial statements show, to a large degree, the same information.

The net income for the year that appears on each of the worksheets illustrated on pages 114–115 was determined by: (1) adding all of the debits that appear under the income and expense heading, (2) adding all of the credits that appear under the income and expense heading, and then (3) deducting the total of the debits from the total of the credits. Only the totals of these debits and credits are shown on the worksheets illustrated here (details were omitted to facilitate comparison of the worksheets).

The entry on each worksheet showing a debit under the income and expense caption and a credit, or credits, under the capital heading (retained earnings heading for the corporation) for the amount of the net income is equivalent to the general journal entry that is made to close the Income Summary account of each enterprise. The credits for the amount of the net income on the worksheets are the same as the credits to the general ledger accounts: M, Capital is credited in the individual enterprise; each partner's capital account is credited in the partnership; and the Retained Earnings account is credited in the corporation.

The capital columns of the individual enterprise and the partnership

worksheets show all the data that appear in the respective statements of capital. The balance of these columns is the balance of capital at the end of the year. It is listed on the worksheet as Capital, December 31, 1960. This balance appears in the balance sheet and thus, on the worksheet, it is "transferred" to the balance sheet columns as indicated. The ending capital balance of each partner is shown separately on the worksheet and in the balance sheet of the partnership. The ending capital balance of each partner is determined by adding to his balance at the beginning of the period his share of the net income and then deducting the withdrawals that he made during the period.

The retained earnings columns of the corporation worksheet show all the data that appear in the statement of retained earnings. The balance of these columns is the amount of retained earnings at the end of the period. It is listed in the illustrated worksheet as Retained earnings, December 31, 1960. This figure appears in the balance sheet and thus, on the worksheet, it is transferred to the balance sheet columns as indicated. This balance is added to the amount that appears as capital stock to make up the total capital (net worth) in the balance sheet.

Capital:		
Capital stock	$50,000	
Retained earnings	27,000	
Total Capital		$77,000

Punctuation of Amounts

Accounting forms for the accounts, the journals, the trial balances, and the worksheets may be very similar regardless of the form of business organization. These accounting forms usually have vertical lines in the amount columns that separate dollars from cents and that separate each of the remaining digits in an amount. Since amounts are commonly recorded by hand on these forms, the vertical lines are highly desirable as they assure proper alignment of the digits. As an example, a balance-column account form showing some entries is reproduced on page 116.

Punctuation marks (commas and periods) are not used in recording amounts on such forms. The printed page is more easily read if most of these vertical lines are omitted. Alignment, on the printed page, is achieved without the use of numerous vertical lines. For these reasons, the vertical lines that separate individual digits are omitted in most of the illustrations in this text. These lines are also commonly omitted from forms when the recording is to be performed through the use of book-

INDIVIDUAL ENTERPRISE

Account	Trial Balance		Income & Expense		M, Capital		Balance Sheet	
M, Capital		40,000				40,000		
M, Drawing	3,000				3,000			
	120,000	120,000	56,000	60,000				
Net income for the year			4,000			4,000		
			60,000	60,000	3,000	44,000		
Capital, December 31, 1960					41,000			41,000
					44,000	44,000	61,000	61,000

PARTNERSHIP

Account	Trial Balance		Income & Expense		Capital		Balance Sheet	
P, Capital		25,000				25,000		
P, Drawing	3,000				3,000			
Q, Capital		30,000				30,000		
Q, Drawing	1,000				1,000			

	170,000	170,000	85,000	90,000				
Net income for the year			5,000					
P's share						2,500		
Q's share						2,500		
			90,000	90,000	4,000	60,000		
Capital, December 31, 1960					56,000			
P, Capital								24,500
Q, Capital								31,500
					60,000	60,000	81,000	81,000

CORPORATION

Account	Trial Balance		Income & Expense		Retained Earnings		Balance Sheet	
Capital stock		50,000						50,000
Retained earnings (Jan. 1, 1960)		20,000				20,000		
Dividends	5,000				5,000			
	220,000	220,000	108,000	120,000				
Net income for the year			12,000			12,000		
			120,000	120,000	5,000	32,000		
Retained earnings, Dec. 31, 1960					27,000			27,000
					32,000	32,000	107,000	107,000

Accounts Payable — Account No. 30

Date	Items	Ref.	Dr.	Cr.	Balance
1962 Jan 1	Balance			1200 00	1200 00
31		P-1		2500 00	
31		CD-1	2000 00		
31		PR-1	1000 00		1600 00

keeping machines. If the vertical lines do not appear, the amounts are properly punctuated.

Opposite Balances

When the balance-column account form is in use, the existence of a credit balance in an account that ordinarily has a debit balance, or the existence of a debit balance in an account that ordinarily has a credit balance, may be indicated by showing the balance amount in red or by writing Cr. or Dr. beside the amount. The latter method was used to show a credit balance in the R, Drawing account on page 109 of this chapter.

Erasures

Although the entries on most accounting forms are recorded in ink, worksheets are commonly prepared in pencil. Neat erasures may be made on worksheets. Erasures should not be made in the journals or in the accounts. When a wrong amount is entered in a journal or in an account, correction may be made by drawing a line through the incorrect amount and inserting the correct amount directly above the error.

Detection of Errors

Financial statements for any form of business organization cannot be prepared properly unless the trial balance is in balance. Errors may have been made even though the trial balance is in balance, but if it is out of balance it is certain that at least one error has been made. In such a case, the exact amount of the difference between the debit and credit totals should be determined. The following "short-cut" procedures may then be applied:

1. Look for a figure of this amount. You may readily recall such a figure. It is sometimes the balance of an account that has been omitted from the trial balance in error. It may be an amount that was not posted, or that was posted twice, to the general ledger.

2. If the difference ends in an even digit, divide the difference by 2. The resulting amount may have been recorded as a debit instead of a credit, or vice versa. Such an error may have occurred in the process of posting or in listing the trial balance. Let us assume that the following figures are the amounts from a trial balance of a small business.

Correct		Incorrect	
Dr.	Cr.	Dr.	Cr.
100		100	
200		200	
300		300	
	150		150
	350		350
	250		250
80			80
70		70	
750	750	670	830

The accountant listed in error the $80 debit as a credit. The trial balance is out of balance by $160. The accountant looks for one-half of this difference, or $80. He looks only in the column having the higher total (the credit column in this example). He checks the $80 amount and discovers that it is actually a debit balance. Since a debit balance of $80 has been listed in the credit column, the total of the credit column is $80 too high. Since this debit balance was not listed in the debit column, the total of the debit column is $80 too low. The difference in the trial balance totals is, therefore, $160. Recording a debit as a credit, or vice versa, will always cause a difference of twice the amount that is improperly recorded.

3. If the difference is .01, .10, 1.00, 10.00, etc., look for an error in addition or subtraction.

4. Divide the difference by 9. The error that is made when adjacent digits in a number are transposed causes a difference that is always evenly divisible by 9. The first digit of the result of the division by 9 will be the difference between the digits that have been transposed. Other digits in the result, if any, will be zeros.

EXAMPLES OF TRANSPOSITIONS

	Digits Having a Difference of									
	One		Two		Three		Five	Eight
Correct amount	32	65	42	97	41	74	72	91
Written as	23	56	24	79	14	47	27	19
Difference	9	9	18	18	27	27	45	72
Divided by 9	1	1	2	2	3	3	5	8

You will notice that the difference caused by the error is always a multiple of nine. It is *nine* multiplied by the difference between the two digits that have been transposed. Thus, the division of the difference caused by a transposition by nine will always give the difference between the digits that have been interchanged.

The result of the division by nine also reveals the decimal position of the transposed digits. If the transposition is between the first and sec-

ond digits from the right (the cents and dimes digits of money amounts), no zeros will appear after the significant figure in the result. If the transposition is between the second and third digits from the right (the dimes and dollars digits), one zero after the significant figure will appear in the result. If the switch is between the third and fourth digits, two zeros will appear, and so forth. There will be only one significant digit in the result obtained when the difference caused by a transposition is divided by nine. The decimal position of the significant digit will be the same as the decimal position of the interchanged digit that appears on the right. Some examples are shown below:

	A	B	C	D
Recorded amount	41.81	481.12	17.35	621.54
Correct amount	41.18	418.12	13.75	261.54
Difference	.63	63.00	3.60	360.00
Division by 9	.07	7.00	.40	40.00

The absence of a zero after the significant digit (7) in the quotient of example A indicates that the transposition is between the first and second digits from the right (the cents and dimes digits). Two zeros appear after the significant digit in the quotient of example B, indicating that the transposition is between the third and fourth columns from the right. One zero in the quotient of example C indicates that the switch was between the second and third digits from the right. Three zeros in example D show that the transposition occurred between the fourth and fifth digits from the right.

The short-cuts cited above may save the accountant many hours as he attempts to locate errors. If the accountant discovers an error that is not the total difference between his trial balance totals, he should correct the error and ascertain the difference after this correction. Now, he should again apply the short-cut procedures listed above. The errors that are revealed by short-cut procedures are of the types that are commonly made. The detection of errors by these procedures is not limited to errors that cause differences in the totals of trial balances. The procedures can be applied equally well in many other areas.

If the procedures outlined above fail to detect a trial balance difference, the accountant should proceed as follows:

1. Refoot the trial balance.
2. Trace the trial balance figures back to the general ledger accounts.
3. Recompute the balances of the ledger accounts.
4. Trace the postings from the journals to the accounts. Place check marks beside the entries in the journals and in the accounts as the postings are traced. Then, review the journals and the accounts for unchecked items.
5. Recheck the equality of debits and credits in each journal.

Correction of Errors It was previously stated that the entry of the wrong amount in a journal or in an account may be corrected by drawing a line through the amount and inserting the correct amount above it. If an amount has been posted to the wrong side of a ledger account, a line is drawn through the amount that is entered on the wrong side and the amount is entered on the correct side. Errors in a journal that are detected before posting may be corrected in a similar manner, whether they involve incorrect amounts or incorrect account names. After a line has been drawn through the incorrect amount or name, the correct amount or name is entered in the proper position (usually directly above the incorrect amount or name). If an entry has been made to the wrong account, it is preferable that a correcting journal entry be made. This specific entry with a complete explanation is the clearest method of making the correction. As an example, let us assume that the Salaries (expense) account has been debited in error for $400 that was a payment for professional services. The correcting entry is as follows:

1960 Jan.	31	Professional services		400.00	
		Salaries			400.00
		To correct error in the cash disbursements book entry of January 18, 1960, for Check #2413—The account debited should be Professional Services instead of Salaries.			

QUESTIONS

1. Identify the form of business organization in each of the following cases:

(a)	Income summary	xxx	
	Retained earnings		xxx
	To close the Income Summary account		
(b)	Income summary	xxx	
	X, Capital		xxx
	To close the Income Summary account		
(c)	Income summary	xxx	
	A, Capital		xxx
	B, Capital		xxx
	To close the Income Summary account		

2. What is the essential difference between a statement of capital (prepared for an individual enterprise or a partnership) and a statement of retained earnings (prepared for a corporation)?
3. X is the owner of an individual enterprise. What is the journal entry to close the Income Summary account if the enterprise has a net loss for the year?
4. Y is the owner of an individual enterprise. A journal entry has been made to transfer the balance of the Income Summary account to the Y, Drawing

account. What is the journal entry to close the Y, Drawing account in each of the cases set forth below? (a) Withdrawals by Y during the year exceed the net income for the year. (b) Net income for the year exceeds the withdrawals by Y during the year. (c) Withdrawals by Y during the year equal the net income for the year. (d) Withdrawals by Y during the year equal the net loss for the year.

5. If a partnership has 150 partners, should a separate capital account be maintained in the general ledger for each partner?
6. When the balance-column account form is in use, how may the accountant indicate the existence of a debit balance in an account that ordinarily has a credit balance?
7. When a trial balance is out of balance, why should the accountant determine promptly the precise amount of the difference between the totals?
8. Explain why the recording of a debit as a credit, or vice versa, causes a difference in trial balance totals of twice the amount that is improperly recorded.
9. Indicate which, if any, of the following errors cause the trial balance to be out of balance: (a) Recording a transaction twice. (b) Failure to post the total of a special column of a multi-column special journal. (c) Failure to post the total of the amount column of a single-column special journal. (d) Failure to record a transaction.
10. Indicate which, if any, of the following errors cause the trial balance to be out of balance: (a) A debit to an incorrect expense account. (b) A credit to an expense account instead of a credit to an income account. (c) A credit to an asset account instead of a debit to a liability account. (d) A debit to an income account instead of a credit to an expense account.

PROBLEMS

Problem 6-1

The net income of a business is $9,000.

Required:

(A) Assume that the business is the individual enterprise of Robert Elk. Record in the general journal the alternative entries that may be used to close the Income Summary account.

(B) Assume that the business is the X-Y Partnership. Earnings are to be divided as follows: X, 70%; Y, 30%. Record in the general journal the alternative entries that may be used to close the Income Summary account.

(C) Assume that the business is a corporation. Record the general journal entry to close the Income Summary account.

Problem 6-2

(A) The capital account of a sole proprietor had a balance of $11,000 at the beginning of a year. Early in the year, the proprietor invested an additional $1,000 in the business. Near the end of the year, the proprietor withdrew $3,000. The balance of the capital account at the end of the year after the books are closed is $11,700.

Required:

Compute the amount of the net income for the year.

(B) The Retained Earnings account of a corporation had a balance of $1,000 at the beginning of a year. Early in the year, capital stock having a par (face) value of $1,000 was issued for $1,000 cash. Near the end of the year, dividends in the amount of $3,000 were paid. The balance of the Retained Earnings account at the end of the year after the books are closed is $1,700.

Required:

Compute the amount of the net income for the year.

Prepare the statement of retained earnings. Assume that the corporation is The Loger Company and that the year involved is 1961.

Problem 6-3

An error has been made in listing the trial balance that appears below:

Dr.	Cr.
$ 300	
125	
700	
	$ 50
	800
	230
	145
$1,125	$1,225

Required:

Relist the trial balance as you think it should appear.

Problem 6-4

The data below concern the partnership of Katz & Cramb.

Capital balances, January 1, 1960:
Joe Katz, $12,000
Al Cramb, $18,000
Investments during the year ended December 31, 1960:
April 30—Joe Katz, $500
July 31—Joe Katz, $500
Withdrawals during the year ended December 31, 1960:
May 31—Al Cramb, $800
November 30—Al Cramb, $800
December 31—Joe Katz, $200

Net income for the year ended December 31, 1960 (shared equally), $2,400.

Required:

(A) Show the capital and drawing accounts of each partner as they appear, after the books are closed, if the net income was transferred from the Income Summary account to the capital accounts.

(B) Show the capital and drawing accounts of each partner as they appear, after the books are closed, if the net income was transferred from the Income Summary account to the drawing accounts.

(C) Prepare a statement of capital for the year ended December 31, 1960.

(Use balance-column account forms for (A) and (B). Carefully record dates and posting references. Assume that one page of each journal was used each month.)

Problem 6-5

In each case below, an error has been made in listing or adding the column of figures.

Case A	Case B	Case C	Case D
$325.21	$ 55.61	$32,510.13	$184.19
272.45	122.36	12,333.40	227.12
119.92	74.38	26,267.17	308.45
241.25	55.61	23,595.95	221.17
$958.83	$307.96	$94,706.65	$930.93

The correct totals are as follows:

Case A—$958.20
Case B—$252.35
Case C—$94,346.65
Case D—$940.93

Required:

Relist each column (including the total) as you think it should appear.

Problem 6-6

The trial balance of Dale & Hill, a partnership, at the end of the fiscal year, December 31, 1962, appears below:

	Dr.	Cr.
Cash	$ 1,200	
Accounts receivable	14,400	
Inventory	24,300	
Equipment	6,000	
Accounts payable		$ 15,200
Dale, Capital		16,800
Dale, Drawing	4,000	
Hill, Capital		14,400
Hill, Drawing	4,400	
Sales		125,800
Sales returns and allowances	600	
Purchases	103,000	
Purchases returns and allowances		400
Salaries (clerical employees)	4,600	
Advertising expense	2,500	
Insurance expense	1,500	
Rent expense	2,400	
Supplies expense	1,600	
Miscellaneous expenses	2,100	
	$172,600	$172,600

The December 31, 1962, inventory is $25,400. The division of partnership net income is as follows: Dale—60%, Hill—40%. There were no additional investments during the year.

Required:

(A) Prepare a worksheet.

(B) Prepare a statement of capital for the year.

SUPPLEMENTARY PROBLEMS

Problem 6-7

The trial balance of The Color Company at the end of the fiscal year, June 30, 1963, is shown below:

	Dr.	Cr.
Cash	$ 4,400	
Accounts receivable	24,300	
Inventory	48,300	
Equipment	12,000	
Accounts payable		$ 37,600
Capital stock		25,000
Retained earnings		15,400
Dividends	2,000	
Sales		200,800
Sales returns and allowances	1,200	
Purchases	154,800	
Purchases returns and allowances		1,000
Salaries	16,200	
Advertising expense	4,200	
Insurance expense	3,100	
Rent expense	3,000	
Supplies expense	2,100	
Miscellaneous expenses	4,200	
	$279,800	$279,800

The June 30, 1963, inventory is $47,100.

Required:

(A) Prepare a worksheet.

(B) Prepare a statement of retained earnings for the year ended June 30, 1963. (Forms 18, 3)

Problem 6-8

In each case below, an error has been made in listing the figures of a post-closing trial balance. Relist the figures as you think they should appear.

CASE A		CASE B	
Dr.	Cr.	Dr.	Cr.
$ 1,233.34		$ 125.00	
6,251.19		700.00	
17,515.21		925.00	
4,110.00		800.00	
	$ 5,107.19		$ 750.00
	12,000.00		942.50
	8,402.55		2,357.50
$29,109.74	$25,509.74	$2,550.00	$4,050.00

(Form 3)

Problem 6-9

A portion of the December 31, 1963, trial balance of J & K Services, a partnership, is presented below:

	Dr.	Cr.
Cash	$ 900	
Accounts receivable	4,210	
Inventory	6,860	
Equipment	3,000	
Accounts payable		$ 5,860
J, Capital		4,340
J, Drawing	2,400	
K, Capital		4,200
K, Drawing	320	
Sales		11,600

The physical inventory method is in use. The December 31, 1963, inventory is $7,560.

All of the balance sheet accounts are presented above.

Each partner invested an additional $500 in the business during the year ended December 31, 1963.

Net income of J & K Services is divided as follows: J—⅔, K—⅓.

Required:

(A) Compute the amount of net income for the year.
(B) Prepare a statement of capital for the year. (Forms 3, 5)

Problem 6-10

The net income of P, Q, and R, a partnership, for the year ended December 31, 1963, is $72,000.

The net income of the partnership is divided in the following ratio: P—3, Q—2, R—1.

Withdrawals by the partners during the year ended December 31, 1963, were as follows: P—$10,000, Q—$24,000, R—$15,000.

In the process of closing the books, net income is transferred from the Income Summary account to the drawing accounts.

Required:

(A) Prepare the journal entry to close the Income Summary account.
(B) Prepare the journal entries to close the drawing accounts. (Form 1)

7

Notes and Drafts

PROMISSORY NOTES

The Uniform Negotiable Instruments Act defines a negotiable promissory note as "an unconditional promise, in writing, made by one person to another, signed by the maker, engaging to pay on demand or at a fixed or determinable future time, a sum certain in money to order or to bearer." A sample promissory note appears below:

$1,000.00 Cleveland, Ohio July 22, 19—

Sixty days AFTER DATE I PROMISE TO PAY

TO THE ORDER OF Joe Rudd

One thousand and 00/100.....DOLLARS

FOR VALUE RECEIVED, WITH INTEREST AT THE RATE OF 6 % PER ANNUM.

PAYABLE AT First National Bank of Cleveland

NO. 3 DUE September 20, 19—

G M Ceraso

The *face* or *principal* of the note is $1,000.
The *date* of the note is July 22, 19—.
The *time* is 60 days.
The *rate* of interest is 6%.
The *payee*, Joe Rudd, is the person to whose order payment is to be made.
The *maker*, G. M. Ceraso, is the person who contracts to pay the note.

The *maturity date,* September 20, 19—, is the date on which payment is due.

The *maturity value,* $1,010, is the amount to be paid by the maker on the maturity date. It is the principal ($1,000) plus the interest ($10).

The determination of the maturity date and the calculation of the maturity value are explained in the paragraphs that follow.

The Maturity Date

If the time of a note is stated in months, the maturity date is the same day of the subsequent month as the original date of the note. If the illustrated note had been due two months after date, the maturity date would have been September 22, 19—. Each day is counted if the period of time is stated in days. Thus, the due date of the illustrated note is September 20, 19—. The due date may be determined as follows:

Days in July	31
Date of the note	22
Days remaining in July	9
Days in August	31
Total days through August 31	40
Days needed in September	20 (maturity date)
Total days	60

A note that is payable on demand does not have a fixed maturity date.

The Maturity Value

The maturity value of a note is the amount that is due on the note at maturity. It is the face value of the note plus the interest. The maturity value of a non-interest-bearing note is the same as the face value. Interest is the price paid for credit. The interest incurred by an enterprise in borrowing from its creditors is an expense (interest expense). The interest earned by a business in lending to its customers is revenue (interest income). Interest expense to the debtor is interest income to the creditor. The maturity value of the illustrated note ($1,010) was determined by adding the interest of $10 to the face value of $1,000. The face value is apparent from inspection of the note but it is necessary to calculate the amount of the interest.

Interest Calculations

The rate of interest per annum is stated as a percentage of the face value. The amount of interest for a year is determined by multiplying the face of the note by the rate of interest. The result, in turn, must be multiplied by the time expressed as a fraction of a year if the time of the note is less than one year. The formula may be expressed as follows:

$$\text{Face} \times \text{rate} \times \text{time} = \text{amount of interest}$$

To simplify interest calculations, it is a common practice to consider a year as consisting of 360 days. The interest on a note having a face of $1,000, and bearing interest at 6% for 60 days, could be computed in accordance with the above formula as shown below:

$$\begin{array}{l} \text{PRINCIPAL} \times \text{RATE} \times \text{TIME} = \text{INTEREST} \\ \$1{,}000 \times .06 \times 60/360 = \$10 \end{array}$$

There are many other procedures for computing interest. Perhaps the most common method is the one based on the fact that 6% interest for 60 days is the same as 1% interest for one year (when a year is considered as having 360 days). Calculating 1% of any amount is performed by pointing off two decimal places to the left. Moving two decimal places to the left on the principal amount of $1,000 gives an answer of $10. This is the interest on $1,000 for 60 days at 6%. The interest for 60 days at 6% on a principal of $1,842.47 is $18.42, if the calculation is made to the nearest cent. The interest for 60 days at 6% on a principal of $1,842.57 is $18.43, if the calculation is made to the nearest cent.

Short-Cut Methods of Computing Interest It is obvious that much time is saved in calculating 60 days' interest at 6% on any amount if the person doing the computing merely moves the decimal point two places to the left to find the answer. This method may be used as the basis of the calculation even though the time is not 60 days. For example, what is the interest on $1,200 at 6% for 90 days?

$12.00 interest at 6% for 60 days
+6.00 interest at 6% for 30 days (½ of 12, because 30 is ½ of 60)

$18.00 interest at 6% for 90 days

The 60-day, 6% method may be used as the basis of the calculation even though the rate of interest is not 6%. For example, what is the interest on $1,200 at 7% for 60 days.

$12.00 interest at 6% for 60 days
+2.00 interest at 1% for 60 days (⅙ of 12, because 1 is ⅙ of 6)

$14.00 interest at 7% for 60 days

The interest on $1,200 at 5% for 60 days can be computed in exactly the same manner but, since 5% is 1% less than 6%, the $2 is subtracted, giving an answer of $10. The interest at the rate of 1% is ⅙ of the interest at the rate of 6%. The 60-day, 6% method may be used as the basis of the calculation even though the rate of interest is not 6% and the time is not 60 days. For example, what is the interest on $2,400 at 4% for 75 days?

$24.00 interest at 6% for 60 days
+6.00 interest at 6% for 15 days (¼ of 24, because 15 is ¼ of 60)

$30.00 interest at 6% for 75 days
−10.00 interest at 2% for 75 days (⅓ of 30, because 2 is ⅓ of 6)

$20.00 interest at 4% for 75 days

It has been shown that interest at 6% for 60 days is the same as interest at 1% (.01) for a year. Since 6 days is 1/10 of 60 days, 6% interest for 6 days is the same as .1% (.001) for a year. Thus, 6 days' interest at 6% can be found by moving the decimal point three places to the left. This method of calculating interest may be used by itself or in conjunction with the 60-day, 6% method. In the example that follows, it is used in conjunction with the 60-day, 6% method. What is the interest on $1,562 at 6% for 68 days?

$15.62 interest at 6% for 60 days
+1.56 interest at 6% for 6 days
+.52 interest at 6% for 2 days (⅓ of 1.56, because 2 is ⅓ of 6)

$17.70 interest at 6% for 68 days

The interest on any amount can be computed by use of the formula—face × rate × time. The calculations, however, can usually be made in less time by use of short-cut methods similar to those that are illustrated above.

Notes in Settlement of Accounts

Notes are sometimes used to settle accounts. Let us assume that on June 22, Joe Rudd, a wholesaler, sold merchandise on account to L. R. Jones, a retailer. The terms of the sale allowed Jones 30 days to pay for the merchandise. Joe Rudd has granted credit to L. R. Jones, and the cost of this credit has been a factor in determining the sales price of the goods, $1,000. The entries, in general journal form, made by the buyer and the seller at the time of the sale are:

SELLER

19—					
June	22	Accounts receivable—L. R. Jones		1,000.00	
		Sales			1,000.00

BUYER

19—					
June	22	Purchases		1,000.00	
		Accounts payable—Joe Rudd			1,000.00

The transaction would actually be recorded in the sales journal by the seller and in the purchases journal by the buyer. Explanations are not essential for entries in such journals. Nothing is recorded as a separate element in regard to the credit that is granted when a sale on account is made.

On July 22, the due date of the invoice, L. R. Jones, the buyer, was unable to make payment. He requested an extension of 60 days' time and offered to sign a note payable for the amount owed ($1,000). Joe Rudd agreed, and the note that is illustrated at the beginning of this chapter was tendered to Rudd by Jones. Every promissory note is a *note payable* to the maker and a *note receivable* to the payee. The note bears interest at the rate of 6% in consideration of the credit granted. The note is recorded as follows:

PAYEE (SELLER)

19—					
July	22	Notes receivable		1,000.00	
		Accounts receivable—L. R. Jones			1,000.00
		Received note in settlement of account			

MAKER (BUYER)

19—					
July	22	Accounts payable—Joe Rudd		1,000.00	
		Notes payable			1,000.00
		Gave note in settlement of account			

Notes are recorded at face value whether or not they bear interest. The accounts receivable and the accounts payable portion of each entry must be posted both to the general ledger and to the subsidiary ledger. After posting, the reference column of the general journal, for the accounts receivable and the accounts payable portion of each entry, will show the general ledger account number and a check mark (such as, 6/✓) as explained in Chapter 5.

If the note had been dated June 22 and tendered on that date (the date of the sale), the entries would be the same as those illustrated above if the usual practice is followed. The seller records the transaction in the sales journal and the buyer records the transaction in the purchases journal. The general journal entries are then made exactly as illustrated above, except for the dates. When the note is tendered on the date of the sale, however, the seller may choose to make no entries to Accounts Receivable and the buyer may choose to make no entries to Accounts Payable. In such a case, only one entry is made on each set of books:

SELLER—PAYEE

19— June	22	Notes receivable		1,000.00	
		Sales			1,000.00
		To record sale to L. R. Jones and note received from him in payment			

BUYER—MAKER

19— June	22	Purchases		1,000.00	
		Notes payable			1,000.00
		To record purchase from Joe Rudd and note given to him in payment			

Notes Honored at Maturity

The maker of a note honors it at maturity by paying the maturity value. The payee receives cash, and the transaction is recorded in his cash receipts journal. The maker disburses cash and the transaction is recorded in his cash disbursements journal. Let us assume that the above note is honored on September 20, the maturity date. The entries, in general journal form, are contrasted below (dates, references, and explanations are omitted to facilitate comparison):

PAYEE—JOE RUDD

Cash	1,010	
Notes receivable		1,000
Interest income		10

MAKER—L. R. JONES

Notes payable	1,000	
Interest expense	10	
Cash		1,010

The price of the credit in regard to this note is $10. You will note that the lender records this as interest income while the borrower records it as interest expense. If a note is non-interest-bearing, the price of the credit in regard to the note is zero (unless the interest was de-

ducted in advance, as explained later in this chapter). If the price of the credit is zero, no interest is recorded in regard to the note. If the above note were non-interest-bearing, the entries to record payment at maturity would be:

PAYEE—JOE RUDD			MAKER—L. R. JONES		
Cash	1,000		Notes payable	1,000	
Notes receivable		1,000	Cash		1,000

Notes Dishonored at Maturity

If the maker of a note fails to pay it at maturity, the note is said to be dishonored. Although the payee still has the right to collect on the note, it is common practice, for credit information purposes, to charge the maturity value of the note to the account receivable of the debtor. The face value is credited to the Notes Receivable account and the interest, if any, is credited to Interest Income. The maker's records do not show an entry at the time he dishonors a note unless he wishes to record the amount of interest that he owes at the maturity date (the recording of accrued interest is discussed in the next chapter).

Let us assume that L. R. Jones did not pay the note at maturity. The note has been dishonored. No entry is made on the books of the maker to show that he has dishonored the note. He may make an entry to record the interest or he may record the interest later. The following entry is made on the books of the payee.

19—					
Sept.	20	Accounts receivable—L. R. Jones		1,010.00	
		Notes receivable			1,000.00
		Interest income			10.00
		To charge the account of L. R. Jones for his dishonored note			

This entry removes the dishonored, past-due note from the Notes Receivable account and records it, at maturity value, in the account of the maker. If the maker, at some future time, again applies for credit, his account reveals the dishonoring of the note.

If the note were non-interest-bearing, the debit to the account receivable of L. R. Jones would be in the amount of $1,000 and no interest income would be recorded.

If a partial collection is made on a note, the remainder should be treated as a dishonored note.

Renewed Notes

If the maker of a note dishonors it at maturity but presents the payee with a new note which is accepted, the note is said to be renewed. It is a common practice for the maker to pay the interest or the interest and part of the principal on a note when it is renewed. Let us assume that when the $1,000, 60-day, 6% note fell due, the maker (L. R. Jones) paid the $10 interest and gave the payee a new note in the amount of $1,000. The entries on the books of the maker and of the payee are contrasted below in general journal form:

PAYEE			MAKER		
Cash transaction:			Cash transaction:		
Cash	10		Interest expense	10	
Interest income		10	Cash		10
Dishonored note:			Dishonored note:		
Accounts receivable—L. R. Jones	1,000		No entry		
Notes receivable		1,000			
New note:			New note:		
Notes receivable	1,000		Notes payable	1,000	
Accounts receivable—L. R. Jones		1,000	Notes payable		1,000

The entry on the books of the maker to record the new note does not change the balance of the Notes Payable account but it does reveal the cancellation of the old note and the tendering of the new one. If, in addition to paying the interest, the maker paid $800 of the principal and gave the payee a new note in the amount of $200, the entries would be as follows:

PAYEE			MAKER		
Cash transaction:			Cash transaction:		
Cash	810		Notes payable	800	
Notes receivable		800	Interest expense	10	
Interest income		10	Cash		810
Dishonored portion:			Dishonored portion:		
Accounts receivable—L. R. Jones	200		No entry		
Notes receivable		200			
New note:			New note:		
Notes receivable	200		Notes payable	200	
Accounts receivable—L. R. Jones		200	Notes payable		200

Discounting a Note Payable

Short-term bank credit may be secured by discounting notes receivable from customers or by issuing notes payable. It is a common practice, in

the latter case, for banks to deduct the interest in advance on loans that are granted. The borrower signs a non-interest-bearing note payable to the bank. He receives the *proceeds*—the face of the note minus the bank's charge for interest. This deduction in advance for interest is known as discount. The borrower is said to have discounted a note payable. If the face of the note is $2,000, the time is 60 days and the bank's interest charge is 6%, the proceeds will be $1,980. The transaction is recorded in the cash receipts record of the borrower (see Chapter 13). The entry in general journal form is presented below:

19—					
Apr.	4	Cash		1,980.00	
		Interest expense		20.00	
		Notes payable			2,000.00
		Discounted a $2,000 note payable, 6%, 60 days			

The entry at maturity when payment is made is:

19—					
June	3	Notes payable		2,000.00	
		Cash			2,000.00
		Paid our discounted note			

Borrowing with Interest-Bearing Note Payable

If a company borrows $2,000 from a bank and gives a $2,000, 60-day, 6% interest-bearing note in exchange, the entry to record the transaction is as follows:

19—					
Apr.	4	Cash		2,000.00	
		Notes payable			2,000.00
		Issued a $2,000, 60-day, 6% interest-bearing note to the bank			

The entry at maturity when payment is made is:

19—					
June	3	Notes payable		2,000.00	
		Interest expense		20.00	
		Cash			2,020.00
		Paid our 60-day, 6% note			

Discounting a Note Receivable

Notes that have been received from customers are frequently discounted at the bank instead of being held to maturity. This is very apt to be the case if the company that holds notes is in need of cash. The amount of cash received by the company (the proceeds) is the maturity value of the note less the discount. The proceeds of the note may be determined as follows:

1. Determine the maturity value.
2. Determine the *discount period.* This is the period of time that the bank must hold the note before collecting it at maturity from the maker. It is the period of time from the discount date to the date of maturity. It is usually figured in days.
3. Compute the discount on the maturity value for the discount period at the bank's discount rate.
4. Subtract the amount of the bank discount, as computed in (3), from the maturity value. The result is the *proceeds.*

Let us assume that the N Corporation has a 60-day, 6% note receivable from a customer in the face amount of $1,000. The note is dated August 2. On September 1, the N Corporation discounts this note at its bank. The rate of the bank's discount happens to be the same as the rate of interest on the note—6%. The proceeds of this note may be determined as follows:

1. The maturity value is the face ($1,000) plus the interest (at 6% for 60 days) of $10, or $1,010.
2. The discount period is from the date of discount (September 1) to the date of maturity (October 1)—30 days.
3. $1,010 for 30 days at 6% is $5.05 (the amount of the bank's discount charge).
4. $1,010 (maturity value) minus $5.05 (bank discount) equals $1,004.95 (the proceeds).

The bank gives the N Corporation $1,004.95 on the date of discount. The bank collects $1,010 from the maker at the maturity date.

It is customary practice to record the difference between the proceeds and the face value as interest income or interest expense. It is recorded as interest income if the proceeds exceed the face; and it is recorded as interest expense if the face exceeds the proceeds. Another way of determining the amount of interest income or interest expense to be recorded is to compare the total interest on the note to the bank's discount charge. If the bank's charge is less than the interest on the note, the difference is recorded as interest income; if the bank's charge is

more than the interest on the note, the difference is recorded as interest expense. In regard to the above note:

Proceeds	$1,004.95	Interest on note	$10.00
Face	1,000.00	Bank discount	5.05
Difference	$ 4.95 (interest income)	Difference	$ 4.95 (interest income)

Why does the N Corporation record only $4.95 as interest income on the note? The N Corporation held the note for the same length of time as the bank, and the interest rate on the note was the same as the discount rate charged by the bank. One-half of the total interest on the note is $5.00. The bank's charge is based on maturity value which includes the $10 interest on the note. The bank's charge on $10 for 30 days at 6% amounts to $.05. Thus, the bank's total charge is $5.05 and the N Corporation receives only $4.95 as interest.

The discounting of the above note is recorded in the cash receipts journal (see Chapter 13). The entry appears below in general journal form:

19— Sept.	1	Cash Notes receivable Interest income Discounted customer G's note at the bank		1,004.95	 1,000.00 4.95

For reasons that are discussed below, it is advisable to credit a Notes Receivable Discounted account rather than the Notes Receivable account. The entry, however, is sometimes made as it appears above.

Contingent Liability on Notes Receivable Discounted When a note receivable is discounted at a bank, the note is transferred to the bank. This transfer is performed by endorsing and delivering the note to the bank. The endorser, by his endorsement, assumes an obligation to pay the note at maturity if it is not paid by the maker. Such contingent liabilities should be shown in the balance sheet. There is danger that the contingent liability will be overlooked when the financial statements are prepared if the discounting of a note receivable is recorded in the manner illustrated above. It is better, therefore, that the discounting of the above note receivable by the N Corporation be recorded in the following manner:

19— Sept.	1	Cash Notes receivable discounted Interest income Discounted customer G's note at the bank		1,004.95	 1,000.00 4.95

Let us assume that the N Corporation had only two notes receivable: the one that was discounted (a), and one in the amount of $2,000 (b) that is still on hand. After the above entry is posted, the notes receivable accounts will appear as follows:

NOTES RECEIVABLE

					Dr.	Cr.	Balance
19—							
Aug.	2	G, 60-day, 6%	(a)	J8	1,000.00		1,000.00
	20	H, 60-day, 5½%	(b)	J8	2,000.00		3,000.00

NOTES RECEIVABLE DISCOUNTED

					Dr.	Cr.	Balance
19—							
Sept.	1	G	(a)	CR8		1,000.00	1,000.00

The N Corporation has only one note receivable (b) and the face of that note is $2,000. The contingent liability may be shown in the balance sheet as follows:

Notes receivable	$3,000.00	
Notes receivable discounted	1,000.00	$2,000.00

Another method is to show the note receivable in the body of the statement in the amount of $2,000, and to reveal the contingent liability by a footnote. The footnote may be as follows:

As of (date of the statement), the company was contingently liable in regard to a note receivable discounted in the amount of $1,000.00.

If G, the maker of the discounted note, pays the bank in full at maturity, the N Corporation no longer has a contingent liability in regard to the note. An entry is made to remove the note and the contingent liability from the records:

19—					
Oct.	1	Notes receivable discounted		1,000.00	
		Notes receivable			1,000.00
		To remove the G note and the contingent liability from the accounts			

Dishonor of Discounted Notes Receivable If the maker fails to pay a discounted note at maturity, the bank will be able to enforce collection from the one who endorsed and discounted the note. A notice of dishonor is sent to the maker and to the endorser. If formal notice of dishonor is given through a *certificate of protest*, a *protest fee* is paid to the notary public for his services by the bank. The one who endorsed and discounted the note must pay the maturity value of the note and the protest fee, if any, to the bank.

Let us assume that G, the maker of the discounted note that is illustrated above, dishonors the note at maturity. The protest fee and the maturity value of the note is paid to the bank by the N Corporation. If the protest fee is $2, the entry will be as follows:

19—					
Oct.	5	Accounts receivable—G		1,012.00	
		Cash			1,012.00
		To record payment of the note of G discounted by us and dishonored by G			

The entire amount of the payment to the bank is charged to the account of G. The entry, as it appears above, to remove the G note and the contingent liability from the accounts is also recorded. There is no longer a contingent liability. It became a definite liability and was paid by the N Corporation.

Note Registers

It is customary practice for all notes receivable to be recorded in one account in the general ledger and for all notes payable to be recorded in another account. Each entry regarding a note has been posted individually to the Notes Receivable account or to the Notes Payable account in the general ledger. Pertinent facts concerning each note may be recorded in the explanation columns of the accounts as shown above in regard to the notes receivable of the N Corporation. Detailed information concerning each note should be readily available. If many notes are received, it is desirable to maintain a supplemental *notes receivable register* that shows the details of each note receivable. If many notes are issued, it is desirable to maintain a supplemental *notes payable register* that shows the details of each note payable. Such memorandum registers may have headings as follows:

NOTES RECEIVABLE REGISTER

Date of Entry	Date of Paper	Maker	Rate	Time	Date of Maturity	Amount	Date Paid	Date Discounted	Remarks

NOTES PAYABLE REGISTER

Date of Entry	Date of Paper	Payee	Rate	Time	Date of Maturity	Amount	Date Paid	Remarks

DRAFTS

A draft is an order in writing by which one party directs another to pay a specified sum of money, on demand or at a fixed or determinable future time, to the bearer or to the order of a named party. When used in international transactions, drafts are known as *bills of exchange.* The three parties to a draft are:

1. The drawer—the person who issues and signs the order.
2. The drawee—the person on whom the draft is drawn and who is ordered to make the payment.
3. The payee—the person to whom payment is to be made.

The drawer and the payee are sometimes the same party, in which case the instrument is a two-party rather than a three-party draft.

A bank check is a draft. The drawer of the order is the depositor. He orders the bank (the drawee) to pay a sum certain in money to the payee. The issuance of a check constitutes a disbursement of cash. The receipt of a check is a receipt of cash. In many enterprises, most of the cash receipts and disbursements are in the form of bank checks.

Commercial Drafts

A commercial draft is a draft drawn by a creditor on his debtor directing the debtor to pay a certain sum of money to the drawer or a third party. There are two types of commercial drafts: sight drafts and time drafts.

Sight Drafts A sight draft is one that is payable upon presentation (on sight) to the drawee. A sight draft is shown below:

$800.00 Cleveland, Ohio July 20, 19—

At sight PAY TO THE ORDER OF Ourselves

Eight hundred and 00/100.....DOLLARS

VALUE RECEIVED AND CHARGE TO ACCOUNT OF

TO The Artless Company

Lion, Ohio

The X Corporation

O. A. Victor Treasurer

The drawer is The X Corporation.
The drawee is The Artless Company.
The payee is Ourselves—The X Corporation.

A sight draft is sometimes used by a creditor in an attempt to collect a past-due account. Such drafts are usually presented for collection through a bank in the debtor's city. The drawee (debtor) may pay the draft to protect his credit rating with his local bank even though he has not responded to other attempts on the part of the creditor to collect. Let us assume that the illustrated sight draft is used in an attempt to collect a past-due account. No entries are made when the sight draft is drawn. If the sight draft is honored, the bank will remit the proceeds to The X Corporation after deducting a collection fee. If the collection fee is $1, the entry on the books of the drawer is:

19—					
July	23	Cash		799.00	
		Collection expense		1.00	
		Accounts receivable—The Artless Company			800.00
		Collected the account of The Artless Company by use of a sight draft			

The drawee (The Artless Company) records the honoring of the sight draft in the same manner as they record the payment of any account payable.

A sight draft may be used by a vendor on freight shipments when he desires to collect on delivery of the goods. The merchandise is shipped on an *order bill of lading.* The buyer cannot get the goods from the carrier without the order bill of lading. He can get the bill of lading, properly endorsed, only by paying the sight draft. When a sale is made on open account, the goods are shipped on a *straight bill of lading* and title to the goods passes to the buyer at the time the merchandise is delivered to the transportation company (the carrier). Payment of the draft usually takes place at a bank in the city where the buyer resides.

Such C.O.D. sales are often recorded by the seller in the same manner

as sales on account. At the time of the shipment, an entry is made in the sales journal (debit Accounts Receivable, credit Sales). When the proceeds are received, an entry is made in the cash receipts journal (see Chapter 13) debiting Cash and Collection Expense and crediting Accounts Receivable. In many enterprises, however, no journal entry is made at the time of the shipment. When the proceeds are received, an entry is made in the cash receipts journal debiting Cash and Collection Expense and crediting Sales. The buyer has made a purchase for cash and he records the transaction in the same manner as he records other cash purchases.

Time Drafts A time draft is one that is payable after the expiration of a certain time. It may be payable a certain number of days after the date of the draft or a certain number of days after acceptance. A draft drawn on September 20, and payable 30 days *after date* will be due October 20. If it is payable 30 days *after sight,* it will be payable 30 days from the date of acceptance. The drawee honors a time draft by writing the word "Accepted" across the face of the paper and signing his name beneath the word. He also records the date of acceptance on the draft if it is payable a certain number of days after sight.

After a time draft has been accepted, it is called *an acceptance.* It has become a promise to pay a certain sum of money at a definite future date. An acceptance, for all accounting purposes, is equivalent to a note. The entries are the same as for notes. It is a common practice to record acceptances in the Notes Receivable or Notes Payable accounts although Acceptances Receivable or Acceptances Payable accounts may be used.

No entries are made when a time draft is drawn. The entries are made only when and if it is accepted. A time draft may be used: (1) to secure a more negotiable form of obligation from a customer, or (2) to obtain written acknowledgment of an obligation from a debtor and his agreement to pay at a specified date. A time draft may be used in connection with open accounts that are already on the books of the drawer or it may be used at the time a sale is made.

Trade Acceptances In the latter instance, a time draft may be used with an order bill of lading to obtain a written promise to pay at a certain time in much the same manner as a sight draft is used for collection on delivery. The buyer obtains the order bill of lading by accepting the time draft. If the time draft is accepted, the entries for recording the complete transaction are the same as they would be if the buyer had issued a promissory note to the seller at the time of the sale. Such entries have been previously illustrated. Accepted time drafts that arise out of the purchase of goods from the drawer and that have this fact stated on the face of the instrument are known as *trade acceptances.*

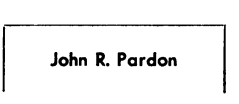
Endorsements

Notes, checks, and drafts are negotiable instruments. A negotiable instrument may be transferred to another party by endorsement and delivery of the paper. If the paper is payable to bearer, it may be transferred legally without endorsement unless the transferee requires endorsement. If the instrument is payable to the order of a named payee, it must be endorsed by him if it is to be transferred.

The endorser guarantees that the paper is valid and genuine and that the endorser has a legal title to it. If the maker, or other party primarily responsible for making payment, does not pay the instrument at the maturity date, the holder can usually hold the endorser responsible for payment.

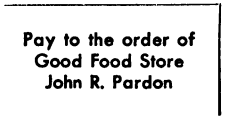
The endorsement is usually written or stamped on the back of the paper. The common types of endorsements are discussed below:

1. A *blank* endorsement consists of the name of the endorser:

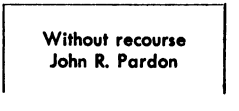


This instrument is now payable to bearer.

2. A *full* endorsement appears as follows:



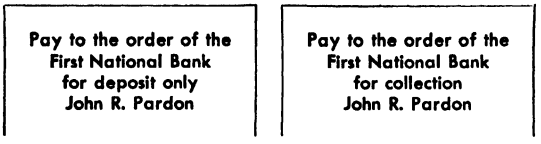
3. A *qualified* endorsement appears below:



The endorser does not guarantee payment of this paper and usually he cannot be held for payment if the maker fails to pay it.

A qualified endorsement, like an unqualified endorsement, may be in blank (as shown) or in full.

4. A *restrictive* endorsement is a full endorsement. It may merely prevent further transfer of the paper or it may restrict the use of the instrument. It may make the party to whom the paper is transferred (usually a bank) the agent of the endorser for a specific purpose:



QUESTIONS

1. What is a promissory note?
2. Identify each of the following terms as they are used in connection with notes: (a) Maker. (b) Payee. (c) Maturity value.
3. (a) Why is it a common practice to consider a year as consisting of 360 days for purposes of interest calculations? (b) Explain why 6% interest for 60 days on any amount may be computed by moving the decimal point two places to the left.
4. What is the maturity date of a note dated January 16, 1962, if the time of the note is: (a) 60 days? (b) Two months?
5. Why is it a common practice to charge the account receivable of the debtor for a note that he has dishonored?
6. What is the journal entry to record the discounting of a note payable?
7. (a) What is the entry to record the discounting of a note receivable if the proceeds are less than the face of the note? (b) What is the entry to record the discounting of a note receivable if the proceeds are more than the face of the note?
8. Why is it advisable to credit the Notes Receivable Discounted account rather than the Notes Receivable account when a note receivable is discounted at a bank?
9. Name and identify the three parties to a draft.
10. Distinguish between a sight draft and a time draft.
11. What is a trade acceptance?
12. Illustrate each of the following types of endorsements: (a) Blank. (b) Full. (c) Qualified. (d) Restrictive.

PROBLEMS

Problem 7-1

(A) Prepare general journal entries to record the following transactions: (1) for King Products Company, and (2) for Variety Company.

1960

Jan. 5—King Products Company sold merchandise on account to Variety Company, $960.

Feb. 4—King Products Company received a 45-day, 5% note from Variety Company in settlement of account, $960.

(B) Prepare general journal entries, for both companies, at the maturity date of the above note for each of the following cases:

(a) The note is honored at maturity.
(b) The note is dishonored at maturity.

(c) The interest is paid and the note is renewed at maturity.
(d) The interest and $300 of the principal are paid at maturity. A new note in the amount of $660 is received by King Products Company.

Problem 7-2

Prepare general journal entries to record the following transactions:

June 3—Discounted at the First National Bank a $3,000, 90-day note payable; discount rate, 6%.
9—Received a 5%, 60-day note for $1,200 from Shaper Company in settlement of account. The date of the note is June 9.
15—Discounted the Shaper Company note at the First National Bank; discount rate, 6%.
27—Received a 4½%, 30-day note for $600 from Hopp Brothers, Inc., in settlement of account. The date of the note is June 27.
July 9—Discounted the Hopp Brothers, Inc., note at the First National Bank; discount rate, 6%.
28—Checked with First National Bank and learned that Hopp Brothers, Inc., paid the note that we discounted July 9.
Aug. 9—Received notice that Shaper Company had dishonored the note that we discounted on June 15 (maturity date, August 8). We issued a check to First National Bank for the maturity value of the note, plus a $2 protest fee.
Sept. 1—Issued a check to First National Bank in payment of our note of June 3.

Problem 7-3

Prepare entries in general journal form to record the following transactions:

June 5—A $600 sight draft was drawn on John Lord of Ogden, Ohio and sent to the Ogden National Bank. Lord's account is past due.
9—Received $598 from the Ogden National Bank, the proceeds of the sight draft drawn on John Lord. A collection fee of $2 was deducted by the bank.
14—Purchased merchandise from Arrow, Inc., $800; terms, trade acceptance due 30 days after sight. Accepted the draft today.
16—Sold and shipped (straight bill of lading) merchandise in the amount of $900 to A. S. Blade; terms, trade acceptance due 30 days from sight. Mailed the trade acceptance to A. S. Blade.
20—Received the $900 trade acceptance from A. S. Blade. The date of acceptance was June 18.
July 14—Dishonored the trade acceptance payable to Arrow, Inc.
18—A. S. Blade paid the trade acceptance due today.

Problem 7-4

(A) Prepare one entry in general journal form to record the following transaction: (1) for Small Company, and (2) for Big Stores.

July 6—Small Company sold merchandise to Big Stores for $1,000 and received a 30-day, non-interest-bearing note from Big Stores for the selling price.

(B) Prepare two entries in general journal form to record the transaction in Part (A): (1) for Small Company, and (2) for Big Stores.

SUPPLEMENTARY PROBLEMS

Problem 7-5

Prepare entries in general journal form to record the following transactions:

1963

May 9—Received a 6%, 30-day note for $840 from Lada Products in settlement of account. The date of the note is May 8.

10—Discounted at The First National Bank a $1,500, 75-day note payable; discount rate, 6%.

14—Discounted the Lada Products note at The First National Bank; discount rate, 6½%.

June 7—Lada Products paid to The First National Bank the maturity value of the note that we discounted on May 14.

12—Received a 6%, 30-day note for $720 from Portal Company in settlement of account. The date of the note is June 11.

13—Discounted at The First National Bank, the Portal Company note; discount rate, 6½%.

July 12—Received notice that Portal Company had dishonored the note that we discounted on June 13 (maturity date, July 11). We issued a check to The First National Bank for the maturity value of the note plus a $2 protest fee.

24—Issued a check to The First National Bank in payment of our note of May 10. (Form 1)

Problem 7-6

Prepare entries in general journal form to record the following transactions:

1963

July 3—Purchased merchandise from Blade, Inc., $645; terms, trade acceptance due 30 days after sight. Accepted the draft today.

3—Sold and shipped merchandise on a C.O.D. basis to Ajax, Inc., of Adden, Indiana. A sight draft and an order bill of lading were sent to Adden National Bank. It is the policy of the Company to make journal entries for such shipments only when the proceeds of the sight draft are received. The amount of the sight draft is $400.

5—Received $398 from Adden National Bank, the proceeds of the sight draft drawn on Ajax, Inc. A collection fee of $2 was deducted by the bank.

8—Sold and shipped (straight bill of lading) merchandise in the amount of $720 to Volon Company; terms, trade acceptance due 30 days from sight. Mailed the trade acceptance to Volon Company.

12—Received the $720 trade acceptance from Volon Company. The date of acceptance was July 10.

Aug. 2—Dishonored the trade acceptance payable to Blade, Inc.

9—Volon Company paid the trade acceptance due today. (Form 1)

Problem 7-7

(A) Prepare entries in general journal form to record the following transactions: (1) for Pae Company, and (2) for Motte Company.

1963
Jan. 2—Pae Company sold merchandise on account to Motte Company, $540.
Feb. 1—Pae Company received a 90-day, 5% note from Motte Company in settlement of account, $540.

(B) Prepare entries in general journal form, for both companies, at the maturity date of the note for each of the following cases:

(a) The note is honored at maturity.
(b) The note is dishonored at maturity.
(c) The interest is paid and the note is renewed at maturity.
(d) The interest and $240 of the principal is paid at maturity. A new note in the amount of $300 is received by Pae Company. (Form 1)

Problem 7-8

(A) Prepare one entry in general journal form to record the following transaction: (1) for Seller Company, and (2) for Buyer Company.

1963
June 5—Seller Company sold merchandise to Buyer Company for $1,200 and received a 30-day non-interest-bearing note from Buyer Company for the selling price.

(B) Prepare two entries in general journal form to record the transaction in Part (A): (1) for Seller Company, and (2) for Buyer Company. (Form 1)

8

Accrued Revenues and Accrued Expenses

Accrual Basis of Accounting

The income statement of a company should show all revenues that have been earned and all expenses that have been incurred during the period covered by the statement. Revenue that has been earned should be reported in the statement even though it has not been collected. Revenue that has been collected in advance should not be reported as income until it is earned. An expense that has been incurred should be deducted in the income statement even though it has not been paid. An expense that has been paid in advance should not be deducted until it is incurred. If the income statement for a period does not correctly reflect revenues that have been earned and expenses that have been incurred, the balance sheet at the end of the period does not correctly reflect assets, liabilities, and capital.

The method of accounting under which all revenues are reported in the period in which they are earned, regardless of when they are collected, and under which all expenses are deducted in the period in which they are incurred, regardless of when they are paid, is known as the *accrual basis* of accounting.

Cash Basis of Accounting

Under the *cash basis* of accounting, all revenues are reported in the period in which they are collected regardless of when they are earned and all expenses are deducted in the period in which they are paid re-

gardless of when they are incurred. An income statement that is prepared under the cash basis of accounting usually does not reflect the amount of income earned and the amount of expense incurred during the period. A balance sheet that is prepared under the cash basis of accounting usually does not show some of the assets and liabilities that exist. However, it is simpler to keep records under the cash basis than it is under the accrual basis. If the financial statements prepared on a cash basis would not differ significantly from those prepared on an accrual basis, the cash basis may be properly used.

Accrual-Cash Basis of Accounting

If a business sells merchandise and carries a stock of goods on hand, it is necessary to ascertain the amount of the inventory at the end of each period in order to correctly present the financial statements. In such a business, as shown in Chapter 3, sales are commonly recorded when made, rather than when they are collected, and purchases are commonly recorded when they occur rather than when they are paid. If the sale of merchandise is a major source of revenue in a business, the recording of sales and purchases on a cash basis would often result in grossly inaccurate financial statements. Generally, for federal income tax purposes, in any case in which it is necessary to use an inventory, the accrual method must be used for sales and purchases. For these reasons, it is customary to use the accrual basis of accounting in a business if merchandise is sold and if an inventory is necessary to correctly determine the profit. For tax purposes, even though the accrual basis is used for sales and purchases, the cash basis of accounting may be used for all other income and expense items. Such an *accrual-cash* (mixed) basis of accounting may be properly used if the resulting financial statements would not vary significantly from those that would result if the accrual basis were used throughout.

Need for Adjustments of Trial Balance Figures

The cash basis of accounting is usually used in keeping records for small non-profit organizations and in recording personal affairs. In accounting for business enterprises, the use of the cash basis is usually limited to small, service-type businesses. Many of these businesses use the accrual basis. It is generally recognized that the use of the accrual basis results in more accurate and meaningful financial statements. Throughout this book the accrual basis of accounting shall be followed. The accrual basis rather than the cash basis has been used in the text in previous chapters in the following instances:

1. Sales of merchandise on account were recorded when the sales occurred rather than at the time of collection.
2. Purchases of merchandise on account were recorded when the purchases occurred rather than at the time of payment.
3. Service "sales" on account were recorded when the services were completed rather than at the time of collection.

Commonly, in recording the transactions of an enterprise, expenses are recorded throughout each accounting period as they are paid (an alternative method is described later in Chapter 14). Thus, current expenses that have been incurred but not paid have not been recorded. The unpaid bills for expenses that have been incurred must be recorded at the end of the fiscal period. The liability for the total of these expenses may be recorded by a credit to a Bills Payable account. This credit is offset by debits to the various expense accounts that are involved. For example, let us assume that a company has two unpaid bills for expenses at the end of a period as follows:

1. A bill in the amount of $1,200 for an advertisement that appears in the current issue of a magazine.
2. A bill in the amount of $900 for repairs and maintenance of automotive equipment.

The following general journal entry may be made to record these unpaid bills for expenses:

19—					
Dec.	31	Advertising		1,200.00	
		Repairs and maintenance		900.00	
		Bills payable			2,100.00
		To record unpaid bills for expenses as of December 31, 19—			

Such an entry is often recorded prior to the preparation of the trial balance. In such a case, the trial balance properly shows the expenses and the liability in regard to these unpaid bills. If the entry has not been made at the time the trial balance is prepared, the entry is recorded as an adjustment of the trial balance. If this entry is not made and the bills are recorded only when they are paid (cash basis of accounting) in the next fiscal period, the net income of the current fiscal period is overstated by $2,100 because expenses are understated by that amount and the liabilities in the balance sheet at the end of the current period are understated by $2,100.

Transactions as evidenced by business papers are recorded in books of original entry known as journals. Subsequent posting, balancing, and listing of the amounts results in a trial balance from which financial statements may be prepared. The information accumulated in the trial balance has come chiefly from the business papers as currently recorded.

Accurate financial statements, under the accrual basis of accounting, can seldom be prepared from such a trial balance without additional data, because there are some income and expense items that are not recorded currently.

The trial balance may have to be adjusted for unpaid bills for expenses, as explained above. Even if the unpaid bills for expenses have been recorded, the trial balance must usually be adjusted for the following types of items:

1. Accrued revenues.
2. Accrued expenses.
3. Prepaid revenues.
4. Prepaid expenses.
5. Depreciation.
6. Bad debts.
7. Correcting entries.

Accrued Revenues

Uncollected revenues that have been earned but are not yet due and collectible and that increase or accumulate with the passage of time are known as *accrued revenues* (accrued incomes) or *accrued receivables.* Common examples of accrued revenues that are recorded at the end of a fiscal period are commissions, royalties, and interest. An asset exists for each accrued revenue. The asset for each accrued revenue is set up by a debit to the appropriate accrued receivable account. Examples of accrued receivable accounts are Accrued Commissions Receivable, Accrued Royalties Receivable, and Accrued Interest Receivable. The debit to the appropriate accrued receivable account is offset by a credit to the proper income account. Examples of such income accounts are Commissions Earned, Royalties Earned, and Interest Income. The adjusting entry to record any accrued revenue is a debit to an accrued receivable (an asset) account and a credit to an income account. Under the cash basis of accounting, no adjusting entries are made for accrued revenues and no accrued receivables will appear in the balance sheet. Under the cash basis of accounting, the revenue that has accrued during the current fiscal period will not be reported in the income statement of the current fiscal period, but it will be reported in the income statement in a future period when it is collected.

Accrued Expenses

Unpaid expenses that have been incurred but are not yet due and payable and that increase or accumulate with the passage of time are known as *accrued* expenses or *accrued* payables. Common examples of accrued expenses that are recorded at the end of a fiscal period are salaries (or wages), taxes, and interest. A liability exists for each accrued expense.

The liability for each accrued expense is set up by a credit to the appropriate accrued payable account. Examples of accrued payable accounts are Accrued Salaries Payable, Accrued Taxes Payable, and Accrued Interest Payable. The credit to the appropriate accrued payable account is offset by a debit to the proper expense account. Examples of such expense accounts are Salaries, Taxes, and Interest Expense. The adjusting entry to record any accrued payable is a debit to an expense account and a credit to an accrued payable (a liability) account. Under the cash basis of accounting, no adjusting entries are made for accrued expenses and no accrued payables will appear in the balance sheet. Under the cash basis of accounting, the expense that has accrued during the current fiscal period will not be reported in the income statement of the current period, but it will be reported in the income statement of a future fiscal period when it is paid.

Unpaid bills for expenses that do not accrue but that have been incurred should not be recorded in the ledger or shown in the balance sheet as accrued payables. Such bills may be recorded in a Bills Payable account as previously shown and they may be shown in the balance sheet under that name. Commonly, the amount of bills payable is added to the amount of accounts payable and the total is shown in the balance sheet as accounts payable.

Accrued Interest

The accounting entries that arise in connection with the recording of accrued interest income (accrued interest receivable) and accrued interest expense (accrued interest payable) are illustrated in the following pages. The entries that arise in connection with the recording of other accrued revenues and other accrued expenses are made in a similar manner.

Let us assume that on December 16, 1960, the J Company received from a customer, the K Company, an $8,000, 6%, 60-day note in payment of account. The entry to record the note would be as follows:

BOOKS OF THE J COMPANY

1960 Dec.	16	Notes receivable		8,000.00	
		Accounts receivable—K Company			8,000.00
		Received note in settlement of account			

BOOKS OF THE K COMPANY

1960 Dec.	16	Accounts payable—J Company		8,000.00	
		Notes payable			8,000.00
		Gave note in settlement of account			

Let us assume further that the fiscal year of each of the companies ends December 31. The trial balance of each firm at December 31, 1960, correctly includes the note at its face value. The trial balance of the J Company does not show that it has earned interest income on the note for 15 days. The trial balance of the K Company does not show that it has incurred interest expense on the note for 15 days. The interest on the note for 15 days is an accrued receivable to the J Company and an accrued payable to the K Company. The interest on the note accrues daily but it is recorded only at the end of the fiscal period. The interest has accrued from December 16 to December 31 (15 days). The interest on $8,000 at 6% for 15 days is $20.

Adjustment for an Accrued Revenue—Worksheet Illustration The adjusting entry, of $20, for the J Company is a debit to Accrued Interest Receivable and a credit to Interest Income. Since the trial balance does not include the accrued interest, the adjustment must be applied to the trial balance so that accurate financial statements may be prepared. Adjustments are included on a worksheet by listing them in a pair of columns adjacent to the trial balance amount columns. The adjustment, of $20, for accrued interest income is included on the worksheet of the J Company as shown below:

Account	Trial Balance		Adjustments		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Notes receivable	8,000						8,000	
Interest income		100		20		120		
	96,000	96,000						
Accrued interest receivable			20				20	

Let us assume that the J Company collected $100 during the fiscal year for interest that was earned on other notes during the year. At the time the trial balance was prepared, therefore, the Interest Income account had a credit balance of $100. The additional $20 that is listed for interest income in the adjustments credit column is added to the trial balance figure of $100 and the total is extended to the income statement

credit column of the worksheet. The $120 is the amount of interest income *earned* during the fiscal year ended December 31, 1960. The $20 that is listed for accrued interest receivable in the adjustments debit column is the total amount of accrued interest receivable at the end of the fiscal year, December 31, 1960. The account title is listed below the trial balance totals at the time the adjustment is entered on the worksheet, because an accrued interest receivable account does not appear in the trial balance. The $20 debit for accrued interest is extended to the balance sheet debit column of the worksheet as shown above. The Notes Receivable account is unaffected by the adjusting entry for accrued interest income.

Adjustment for an Accrued Expense—Worksheet Illustration In regard to the above note, the adjusting entry, of $20, for the K Company is a debit to Interest Expense and a credit to Accrued Interest Payable. This adjusting entry for accrued interest expense is included on the worksheet of the K Company as shown below:

Account	Trial Balance		Adjustments		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Notes payable		8,000						8,000
Interest expense	200		20		220			
	88,000	88,000						
Accrued interest payable				20				20

Let us assume that the K Company paid $200 during the fiscal year for interest that was incurred on other notes during the year. At the time the trial balance was prepared, therefore, the Interest Expense account had a debit balance of $200. The additional $20 that is listed for interest expense in the adjustments debit column is added to the trial balance figure of $200 and the total is extended to the income statement debit column of the worksheet. The $220 is the amount of interest expense *incurred* during the fiscal year ended December 31, 1960. The $20 that is listed for accrued interest payable in the adjustments credit column is the total amount of accrued interest payable at the end of

the fiscal year, December 31, 1960. The account title is listed below the trial balance totals at the time the adjustment is entered on the worksheet because an accrued interest payable account does not appear in the trial balance. The $20 credit for accrued interest payable is extended to the balance sheet credit column of the worksheet as shown above. The Notes Payable account is unaffected by the adjusting entry for accrued interest expense.

Accrual Adjustments in the Journal and the Ledger Adjusting entries are recorded in the general journal. The rules for recording increases and decreases in the various accounts apply to adjusting entries in the same way as they apply to all other entries in the general journal. Adjustments are recorded after the trial balance has been prepared at the close of the fiscal period.

The previous adjusting entry in regard to accrued interest on a note is recorded in the general journal as follows:

BOOKS OF THE J COMPANY (p. 9)

1960					
Dec.	31	Accrued interest receivable		20.00	
		Interest income			20.00
		To record accrued interest on note receivable			

BOOKS OF THE K COMPANY (p. 7)

1960					
Dec.	31	Interest expense		20.00	
		Accrued interest payable			20.00
		To record accrued interest on note payable			

The general ledger accounts affected by the adjusting entry appear as follows after the entry has been posted:

BOOKS OF THE J COMPANY

Accrued Interest Receivable

				Dr.	Cr.	Balance
1960						
Dec.	31		J9	20.00		20.00

Interest Income

				Dr.	Cr.	Balance
1960						
Oct.	20		CR10		60.00	60.00
Nov.	16		CR11		40.00	100.00
Dec.	31		J9		20.00	120.00

BOOKS OF THE K COMPANY

Accrued Interest Payable

				Dr.	Cr.	Balance
1960						
Dec.	31		J7		20.00	20.00

Interest Expense

				Dr.	Cr.	Balance
1960						
Aug.	31		CD8	90.00		90.00
Nov.	9		CD11	110.00		200.00
Dec.	31		J7	20.00		220.00

The balances of these accounts, after the adjusting entry has been posted, are the same as the balances that are shown for these accounts in the financial statements columns of the worksheet.

The entries to close the books at the end of the fiscal year are made after all adjusting entries have been posted. The entry to close the above Interest Income account will be in the amount of $120. The entry to close the above Interest Expense account will be in the amount of $220.

Subsequent Entries Affected by Accrual Adjustments What entries are made on February 14, 1961, the maturity date of the note, when the K Company pays the maturity value of the note to the J Company? The total amount of the payment is $8,080—the total interest on the note being $80. Interest in the amount of $20 applies to the 15-day period from December 16, 1960, to December 31, 1960. Interest in the amount of $60 applies to the 45-day period from December 31, 1960, to February 14, 1961. An adjusting entry on the books of the J Company has recorded the $20 as interest income in the year ended December 31, 1960. An adjusting entry on the books of the K Company has recorded the $20 as interest expense in the year ended December 31, 1960. The records of the J Company for 1961 must show $60 as interest income in regard to this note. The records of the K Company for 1961 must show $60 as interest expense in regard to this note. The amount of interest paid to the J Company by the K Company in 1961, however, is $80. At the beginning of 1961, the accounts concerning the note and the accrued interest appear as follows:

BOOKS OF THE J COMPANY

Notes Receivable

1961					
Jan.	1	Bal.	8,000		

Accrued Interest Receivable

1961					
Jan.	1	Bal.	20		

BOOKS OF THE K COMPANY

Notes Payable

				1961	
				Jan. 1	Bal. 8,000

Accrued Interest Payable

				Jan. 1	Bal. 20

Of the $80 received for interest on February 14, 1961, by the J Company, $20 is credited to the Accrued Interest Receivable account as there is no longer any interest receivable on the note. The remaining $60 is the proper amount of interest income to be reported for 1961 and the Interest Income account is credited for that amount. Of the $80 paid for interest on February 14, 1961, by the K Company, $20 is debited to the Accrued Interest Payable account as there is no longer any interest payable on the note. The remaining $60 is the proper amount of interest expense to be reported for 1961 and the Interest Expense account is debited for that amount. The compound entry to record the payment of the above note to the J Company by the K Company on February 14, 1961, is as follows:

BOOKS OF THE J COMPANY

1961				
Feb.	14	Cash	8,080.00	
		Notes receivable		8,000.00
		Accrued interest receivable		20.00
		Interest income		60.00
		Collection of K Company note		

BOOKS OF THE K COMPANY

1961				
Feb.	14	Notes payable	8,000.00	
		Accrued interest payable	20.00	
		Interest expense	60.00	
		Cash		8,080.00
		Payment of J Company note		

The entry is recorded in the cash receipts journal of the J Company and in the cash disbursements journal of the K Company (see Chapter 13).

Reversing Entries for Accrual Adjustments Usually when interest is collected at the maturity date on a note, the entire amount is credited

to the Interest Income account. Usually when interest is paid at the maturity date on a note, the entire amount is debited to the Interest Expense account. The entries that appear above indicate that the usual procedure cannot be followed if part of the interest on the note has been recorded by an adjusting entry.

The usual procedure may be followed, however, if the adjusting entry has been *reversed.* A reversing entry is one in which the debit is the same as to account and amount as the credit in the entry that is being reversed, and the credit is the same as to account and amount as the debit in the entry that is being reversed. The date of a reversing entry is the first day of the new fiscal period. At the end of the fiscal year, reversing entries are recorded after the books have been closed. The reversing entry that is applicable to the $20 adjustment for accrued interest that was made as of December 31, 1960, appears below immediately after the reproduction of the adjusting entry:

BOOKS OF THE J COMPANY

(Adjusting entry)

1960 Dec.	31	Accrued interest receivable		20.00	
		Interest income			20.00
		To record accrued interest on note receivable			

(Reversing entry)

1961 Jan.	1	Interest income		20.00	
		Accrued interest receivable			20.00
		To reverse adjustment for accrued interest on note receivable			

BOOKS OF THE K COMPANY

(Adjusting entry)

1960 Dec.	31	Interest expense		20.00	
		Accrued interest payable			20.00
		To record accrued interest on note payable			

(Reversing entry)

1961 Jan.	1	Accrued interest payable		20.00	
		Interest expense			20.00
		To reverse adjustment for accrued interest on note payable			

The interest accounts that are involved appear as follows after the reversing entry has been posted:

BOOKS OF THE J COMPANY

Accrued Interest Receivable

1961			1961		
Jan. 1	Bal.	20	Jan. 1	Rev.	20

Interest Income

1961					
Jan. 1	Rev.	20			

BOOKS OF THE K COMPANY

Accrued Interest Payable

1961			1961		
Jan. 1	Rev.	20	Jan. 1	Bal.	20

Interest Expense

1961					
			Jan. 1	Rev.	20

The reversing entry on the books of the J Company eliminates the balance in the Accrued Interest Receivable account and it causes a temporary *debit* balance in the Interest Income account. The reversing entry on the books of the K Company eliminates the balance in the Accrued Interest Payable account and it causes a temporary *credit* balance in the Interest Expense account. Since the adjusting entry has been reversed, the payment of the interest of $80 to the J Company by the K Company at the maturity date of the note is recorded as if the adjusting entry had not been made. The entry to record the payment of the maturity value of the note on February 14, 1961, is recorded as follows:

BOOKS OF THE J COMPANY

1961 Feb.	14	Cash		8,080.00	
		Notes receivable			8,000.00
		Interest income			80.00
		Collection of K Company note			

BOOKS OF THE K COMPANY

1961 Feb.	14	Notes payable		8,000.00	
		Interest expense		80.00	
		Cash			8,080.00
		Payment of J Company note			

Notice that the entire amount of interest on the note is credited to the Interest Income account on the books of the J Company and debited to the Interest Expense account on the books of the K Company. After the above entry is posted, the Interest Income account of the J Company appears as follows:

Interest Income

				Dr.	Cr.	Balance
1961						
Jan.	1	Reversal	J1	20.00		20.00 Dr.
Feb.	14		CR2		80.00	60.00

The account now shows the amount of interest earned on the note in 1961. After the above entry is posted, the Interest Expense account of the K Company appears as follows:

INTEREST EXPENSE

				Dr.	Cr.	Balance
1961						
Jan.	1	Reversal	J1		20.00	20.00 Cr.
Feb.	14		CD2	80.00		60.00

The account now shows the amount of interest expense incurred on the note in 1961.

Optional Nature of Accrual Reversing Entries

Reversing entries may be made in a similar manner for all other accrual adjustments. The use of reversing entries in regard to accrual adjustments is optional. Many accountants prefer to record reversing entries in regard to all accrual adjustments, since subsequent collections and payments of these accrual items may then be recorded in the same manner as they would be recorded if the adjusting entries had not been made. If the reversing entries are not made, subsequent collections and payments of these accrual items cannot be recorded without reference to the accrual adjustments that were made at the close of the last fiscal period.

In some instances, the use of a reversing entry for an accrual adjustment is highly desirable. As an example, let us assume that a company has a great many interest-bearing notes receivable at the close of a fiscal period. A schedule is prepared that shows the accrued interest on each note and the total. *One* adjusting entry is made to record the total of this accrued interest income (accrued interest receivable). If this adjusting entry is reversed, the subsequent collections of interest on the many notes can be recorded without reference to the schedule

from which the adjusting entry was determined. If the reversing entry is not made, repeated reference to the schedule is necessary in order to accurately record the subsequent collections of interest on the notes. This adjusting entry should be reversed even if the other accrual adjustments of the company are not reversed.

Accrued Commissions

Accrued revenues and accrued expenses increase or accumulate with the passage of time. The amount of accrued interest varies directly with the length of the period in which it has accrued. The amounts of some accrued items do not vary with the length of the period in which they have accrued. Let us consider accrued commissions under the following conditions:

1. The main source of revenue for the T Company and for the V Company is the sale of products through salesmen who are employees of the company.
2. The T Company exhibits samples and makes sales of a few products for the V Company. The V Company ships the products, bills and records the sales, and collects the accounts.
3. The V Company pays the T Company a commission of 10% on these sales. The commission is computed by the V Company at the end of each month and payment is made to the T Company about two weeks after the close of each month.
4. The T Company maintains a memorandum record of these sales in order to check the amount of the commission.
5. The fiscal year of each company ends December 31.

The sales of December, 1960, that were subject to the commission amounted to $6,000. These sales accumulated during the month of December but the amount of the sales varied from day to day. The amount of the commission is computed by multiplying $6,000 by 10%. Time is not a factor in the computation of the amount of the commission.

The trial balance of the T Company at December 31, 1960, does not include the commission of $600 that was earned during December because the commission has not been recorded. If the commission is not recorded until it is collected, it will be recorded as revenue earned in the year 1961. The commission was earned in December and it should be included as revenue of the year ended December 31, 1960.

The trial balance of the V Company at December 31, 1960, does not include the commission expense of $600 that was incurred during December because the commission has not been recorded. If the commission is not recorded until it is paid, it will be recorded as expense

in the year 1961. The commission expense was incurred in December and it should be included as expense of the year ended December 31, 1960.

The accrued commission is included in the financial statements by recording the adjusting entry on the worksheet in the manner previously shown in regard to accrued interest. The accrued commission is included in the ledger accounts by recording the entry in the general journal and posting it to the accounts. The general ledger accounts at the end of the fiscal year, after adjusting entries have been posted, contain the same data that are exhibited in the financial statements for the year.

Effect of Accrued Revenue Adjustments on the Financial Statements

The adjusting entry to record the accrued commission that was earned by the T Company during the month of December is as follows:

1960 Dec.	31	Accrued commissions receivable		600.00	
		Commissions earned			600.00
		To record commissions earned on sales for the V Company during December			

Like *all* other adjusting entries that record accrued revenue, an accrued receivable (an asset) account is debited and an income account is credited. What is the effect of this accrued revenue adjustment on the balance sheet that is prepared as of December 31, 1960, and on the income statement that is prepared for the year ended December 31, 1960? To show the effect of the adjustment on the financial statements, let us assume that the adjustment is not made. The omission of the debit to Accrued Commissions Receivable causes assets to be understated by $600. The omission of the credit to Commissions Earned causes revenue and net income to be understated by $600. An understatement of net income for a year causes an understatement of retained earnings at the end of the year. Thus, capital (capital stock plus retained earnings) in the balance sheet is understated by $600. The understatement of capital in the balance sheet at the end of the year is offset by the understatement of assets.

ASSETS = LIABILITIES + CAPITAL
(understated $600) = (correct) + (understated $600)

At the end of a fiscal period, the omission of an adjusting entry for *any* accrued revenue causes net income for the period to be understated and it causes assets and capital at the end of the period to be understated.

Effect of Accrued Expense Adjustments on the Financial Statements

The adjusting entry to record the accrued commission expense that was incurred by the V Company during the month of December is as follows:

1960 Dec.	31	Commissions expense		600.00	
		Accrued commissions payable			600.00
		To record commissions expense on sales made for us by the T Company during December			

Like *all* other adjusting entries that record accrued expense, an expense account is debited and an accrued payable (a liability) account is credited. What is the effect of this accrued expense adjustment on the balance sheet that is prepared as of December 31, 1960, and on the income statement that is prepared for the year ended December 31, 1960? To show the effect of the adjustment on the financial statements, let us assume that the adjustment is not made. The omission of the credit to Accrued Commissions Payable causes liabilities to be understated by $600. The omission of the debit to Commissions Expense causes expense to be understated by $600. This understatement of total expense causes the net income to be overstated by $600. An overstatement of net income for a year causes an overstatement of retained earnings at the end of the year. Thus, capital in the balance sheet is overstated by $600. The overstatement of capital in the balance sheet at the end of the year is offset by the understatement of liabilities.

ASSETS	=	LIABILITIES	+	CAPITAL
(correct)	=	(understated $600)	+	(overstated $600)

At the end of a fiscal period, the omission of an adjusting entry for *any* accrued expense causes net income for the period to be overstated. The omission causes liabilities at the end of the period to be understated and it causes capital at the end of the period to be overstated.

QUESTIONS

1. What is the accrual basis of accounting?
2. What is the cash basis of accounting?
3. What is the accrual-cash basis of accounting?
4. Why should unpaid bills for expenses be recorded at the end of an accounting period?
5. Even if unpaid bills for expenses have been recorded, the trial balance must usually be adjusted for what types of items?
6. What are accrued expenses?
7. What are accrued revenues?
8. Give reasons why you would not make adjusting entries each day to record the accrued revenues and accrued expenses for the day.
9. A 30-day, 6% note receivable in the face amount of $1,000 was collected on the maturity date, January 12, 1962. In regard to this note, how much interest income is reported in the income statement for the year ended December 31, 1961 (a) If the enterprise uses the accrual basis of accounting? (b) If the enterprise uses the cash basis of accounting? (c) If the enterprise uses the accrual-cash basis of accounting?
10. Failure to record accrued revenues at the end of a year will have what effect upon (a) The net income reported for the year? (b) The assets shown in the balance sheet at the end of the year? (c) The liabilities shown in the balance sheet at the end of the year? (d) The capital shown in the balance sheet at the end of the year?
11. Failure to record accrued expenses at the end of a year will have what effect upon (a) The net income reported for the year? (b) The assets shown in the balance sheet at the end of the year? (c) The liabilities shown in the balance sheet at the end of the year? (d) The capital shown in the balance sheet at the end of the year?
12. What is a reversing entry?
13. Is it necessary that reversing entries be made for all accrual adjustments?

PROBLEMS

Problem 8-1

The Jay Company and the Kay Company have fiscal years ending December 31. Financial statements are prepared quarterly for each company. On December 1, 1960, Jay Company received a $6,000, 6%, 90-day note from Kay Company. Prepare in general journal form, the entries listed below, (A) for Jay Company and (B) for Kay Company:

(a) The adjusting entry of December 31, 1960, for the accrued interest on the note.
(b) The reversing entry of January 1, 1961.
(c) The entry of March 1, 1961, when the note is paid by the Kay Company.
(d) The entry of March 1, 1961, which would be used if a reversing entry had not been made.

Problem 8-2

If the adjusting entry of December 31, 1960, to record the accrued interest on the note in Problem 8-1 is not made, the financial statements are incorrect. Indicate the amount of the understatement or overstatement, if any, of each of the following, (A) for the Jay Company and (B) for the Kay Company:

(a) Net income for the year ended December 31, 1960.
(b) Assets, December 31, 1960.
(c) Liabilities, December 31, 1960.
(d) Capital, December 31, 1960.
(e) Net income for the year ended December 31, 1961.

Problem 8-3

(A) Using the data below, compute the amount of commissions expense for the year ended December 31, 1960:
Accrued commissions payable:
January 1, 1960–$9,000
December 31, 1960–$7,200
Commissions paid during the year ended December 31, 1960–$98,400.

(B) Using the data below, compute the amount of interest income for the year ended December 31, 1960:
Accrued interest receivable:
January 1, 1960–$130
December 31, 1960–$210
Interest received during the year ended December 31, 1960–$926.

(C) Using the data below, compute the amount of interest paid during the year ended December 31, 1960:
Accrued interest payable:
January 1, 1960–$430
December 31, 1960–$520
Interest expense for the year ended December 31, 1960–$1,370.

(D) Using the data below, compute the amount of commissions received during the year ended December 31, 1960:
Accrued commissions receivable:
January 1, 1960–$440
December 31, 1960–$520
Commissions earned for the year ended December 31, 1960–$3,340.

(E) Using the data below, compute the amount of accrued salaries payable as of January 1, 1960:
Accrued salaries payable, December 31, 1960–$14,400
Salaries paid during the year ended December 31, 1960–$222,400
Salaries expense for the year ended December 31, 1960–$224,600.

(F) Using the data below, compute the amount of accrued interest receivable as of December 31, 1960:
Accrued interest receivable, January 1, 1960–$560
Interest received during the year ended December 31, 1960–$1,732
Interest income for the year ended December 31, 1960–$1,640.

Problem 8-4

Data concerning the sales and the purchases of Array Company for June, July, and August, 1960, appear below:

Sales:

Date of Sale	Date of Collection from Customer	Amount
June 6	June 26	$2,400
June 24	July 10	3,000
July 19	July 26	1,400
July 22	Aug. 10	4,000
Aug. 16	Aug. 25	1,800

Purchases:

Date of Purchase	Date of Payment to Creditor	Amount
June 8	July 11	$1,500
June 28	July 11	1,700
July 14	Aug. 10	1,100
July 27	Aug. 10	2,500
Aug. 18	Sept. 10	1,200

The inventory at the end of each month was as follows:

June 30—$1,000
July 31—$1,300
Aug. 31—$1,280

Required:

(A) Using the data listed above, prepare the gross profit section of the income statement for the month of July, 1960.

(B) Using the data listed above, prepare the gross profit section of the income statement for the month of July, 1960, as it would appear if the cash basis of accounting had been used. (Use the inventory amounts given.)

SUPPLEMENTARY PROBLEMS

Problem 8-5

The data below were taken from the December 31, 1962, trial balance of Lacord Cement Company:

	Dr.	Cr.
Notes receivable	3,000	
Notes payable		10,000
Interest expense	920	
Interest income		240

The balance of the Notes Receivable account consists of a $3,000, 6%, 60-day note dated November 16, 1962.

The balance of the Notes Payable account consists of a $10,000, 5%, 90-day note dated November 7, 1962.

The accrued interest on the notes has not been recorded.

Required:

(A) Prepare the adjusting entries to record the accrued interest on the notes.

(B) Prepare the journal entries to close the Interest Expense account and the Interest Income account. (Form 1)

Problem 8-6

At the end of the fiscal year, December 31, 1963, the omission of adjusting entries for accruals caused inaccuracies in the financial statements of Opell Company. Adjustments should have been made for the following items:

(a) Accrued interest receivable	$ 120
(b) Accrued interest payable	200
(c) Accrued commissions receivable	1,200
(d) Accrued salaries payable	1,120

Required:

(A) Prepare a schedule showing the amount of the understatement or overstatement, if any, of assets, liabilities, and capital in the balance sheet of December 31, 1963, that resulted from the omission of each adjusting entry and show the total understatement or overstatement of assets, liabilities, and capital.

(B) Prepare a schedule showing the amount of the understatement or overstatement of net income for the year ended December 31, 1963, that resulted from the omission of each adjusting entry and show the total understatement or overstatement of net income, if any. (Form 8)

Problem 8-7

Tea Company and Sea Company have fiscal years ending March 31. On March 1, 1963, Tea Company received a $9,000, 6%, 45-day note from Sea Company. The accounts affected by the note and the interest on the note are shown as they appear at the beginning of the new fiscal year, April 1, 1963.

BOOKS OF TEA COMPANY

Notes Receivable

				Dr.	Cr.	Balance
1963 Apr.	1	Balance		9,000.00		9,000.00

Accrued Interest Receivable

				Dr.	Cr.	Balance
1963 Apr.	1	Balance		45.00		45.00

Interest Income

				Dr.	Cr.	Balance

BOOKS OF SEA COMPANY

Notes Payable

				Dr.	Cr.	Balance
1963 Apr.	1	Balance			9,000.00	9,000.00

Accrued Interest Payable

				Dr.	Cr.	Balance
1963 Apr.	1	Balance			45.00	45.00

Interest Expense

				Dr.	Cr.	Balance

The accountant for Tea Company makes reversing entries in regard to all accrual adjustments. The accountant for Sea Company does not make reversing entries for accrual adjustments. Assume that each posting in April is made from page one of the proper journal.

Required:

(A) Show the above accounts as they appear on the books of Tea Company on the due date of the note after the maturity value has been received and recorded by Tea Company and postings have been made to the above accounts.

(B) Show the above accounts as they appear on the books of Sea Company on the due date of the note after the maturity value has been paid and recorded by Sea Company and postings have been made to the above accounts. (Form 7)

Problem 8-8

(A) Using the data below, compute the amount of interest income for the year ended December 31, 1963:

Accrued interest receivable:
January 1, 1963—$244.20
December 31, 1963—$287.12
Interest received during the year ended December 31, 1963—$963.17.

(B) Using the data below, compute the amount of commissions paid during the year ended December 31, 1963:

Accrued commissions payable:
January 1, 1963—$4,360
December 31, 1963—$5,450
Commissions expense for year ended December 31, 1963—$43,440.

(C) Using the data below, compute the amount of accrued commissions receivable as of December 31, 1963:

Accrued commissions receivable, January 1, 1963—$1,800.
Commissions received during the year ended December 31, 1963—$15,000.
Commissions earned for year ended December 31, 1963—$14,220.

(D) Using the data below, compute the amount of accrued salaries payable as of January 1, 1963:

Accrued salaries payable, December 31, 1963—$3,000.
Salaries paid during the year ended December 31, 1963—$40,400.
Salaries expense for the year ended December 31, 1963—$41,200.
(Form 3)

9

Prepaid Revenues and Prepaid Expenses

Matching Revenues Earned with Expenses Incurred

Under the accrual basis of accounting, it is essential that revenues earned during a fiscal period be *matched* with the expenses incurred in earning the revenues. In the income statement, all revenues are reported in the period in which they are earned regardless of when they are collected and all expenses are deducted in the period in which they are incurred regardless of when they are paid. It was shown in the previous chapter that, in order to report all revenues when earned and all expenses when incurred, it is necessary to record adjusting entries at the end of the fiscal period. The adjusting entries that are recorded in connection with accrued revenues and accrued expenses were covered in the previous chapter. This chapter is concerned with the adjustments that are recorded in connection with prepaid revenues and prepaid expenses.

PREPAID REVENUES

Revenues are sometimes received in advance for services or commodities to be rendered. These unearned revenues are liabilities until they are earned. The revenues are earned and the liabilities are discharged as the services or commodities are furnished. Rent, interest, and subscriptions are examples of commodities and services for which revenue is commonly received in advance. That portion of revenue re-

ceived in advance that is unearned at the end of the fiscal period is known as *prepaid revenue* or *unearned revenue.* If revenue received in advance will be completely earned before the end of the fiscal period, an income account is credited at the time the revenue is collected. In such a case, no prepaid revenue exists at the end of the fiscal period.

What account should be credited at the time revenue is received in advance for a commodity or service if part of the revenue will be unearned at the end of the fiscal period? The credit may be to a liability account such as *Prepaid Rental Income, Prepaid Interest Income,* or *Prepaid Subscription Income;* or the credit may be to an income account such as *Rental Income, Interest Income,* or *Subscription Income.* In either case, an adjusting entry is made at the end of the accounting period to apportion the amount of the advance collection between the liability account and the income account. If the advance collection of revenue was recorded by a credit to a liability account (a prepaid income account), an adjusting entry is made to remove the *earned portion* from the liability account and to record it as income. If the advance collection of revenue was recorded by a credit to an income account, an adjusting entry is made to remove the *unearned portion* from the income account and to set it up as a liability. At the end of the fiscal period, prior to the adjusting entry, the balance of the account that was credited with the advance collection includes revenue that has been earned (income) and revenue that is unearned (a liability). The account may be referred to as a mixed account. A *mixed* account is one which includes both real (balance sheet) and nominal (income statement) elements.

If a revenue item received in advance is earned during several fiscal periods, a part of the advance collection is recorded as income in each of those fiscal periods. In such a case, a diminishing amount is shown as a liability in the balance sheet at the end of each succeeding fiscal period until the revenue is completely earned.

Prepaid Rental Income

The accounting entries that arise in connection with the recording of rent collected in advance (prepaid rental income) are illustrated in the following pages. The entries that arise in connection with the recording of other prepaid revenues are made in a similar manner.

Let us assume the following facts concerning the S Company:

1. The fiscal year of the Company ends December 31.
2. Financial statements for the Company are prepared at the end of the fiscal year only.
3. The Company leased some property to the R Company for a two-

year period beginning April 1, 1960. The Company has no other rental income.

4. The total rent of $12,000 for the two-year period was received from the lessee on April 1, 1960.

The S Company will earn the revenue that has been collected in advance by keeping the property in satisfactory condition for occupancy in accordance with the terms of the lease. The computation of the rental income earned is based on time. The rental property will be occupied by the lessee for nine months in 1960, for twelve months in 1961 and for three months in 1962. The rental income earned each month is $500 ($12,000 divided by 24 months). Thus, the lessor will earn income as follows: $4,500 in 1960, $6,000 in 1961, and $1,500 in 1962. Since $4,500 will be earned in 1960, the prepaid rental income at the end of 1960 will be $7,500 ($12,000 – $4,500). An additional $6,000 will be earned in 1961 and the prepaid rental income at the end of 1961 will be $1,500 ($7,500 – $6,000).

Recording Revenue Received in Advance The collection of rent in advance on April 1, 1960, may be recorded by a credit to a liability account entitled "Prepaid Rental Income" or to an income account entitled "Rental Income." Other titles that may be used for the liability account are "Unearned Rental Income" and "Rent Collected in Advance." The income account is sometimes entitled "Rent Earned." In the illustrations that follow, Method A shows the entries that are made if the advance collection is credited to the liability account and Method B shows the entries that are made if the advance collection is credited to the income account. The complete entry to record the advance collection is shown below in general journal form:

METHOD A

1960 Apr.	1	Cash		12,000.00	
		Prepaid rental income			12,000.00
		(Advance collection recorded as a liability)			

METHOD B

1960 Apr.	1	Cash		12,000.00	
		Rental income			12,000.00
		(Advance collection recorded as revenue)			

Adjustments for Prepaid Revenues Under Method A, the trial balance as of December 31, 1960, will show a credit balance of $12,000 for Prepaid Rental Income and no Rental Income account will appear. The Rental Income account may be listed in the trial balance even though it has no balance, since the account will be used in the process of finishing

the worksheet. Under Method B, the trial balance will show a credit balance of $12,000 for Rental Income and no Prepaid Rental Income account will appear. The latter account may be listed in the trial balance even though it has no balance, since the account will be used in the process of completing the worksheet. The accounts as they appear at December 31, 1960, before adjustment, are contrasted below:

Method A

Prepaid Rental Income

1960 Apr. 1	12,000

Rental Income

Method B

Prepaid Rental Income

Rental Income

1960 Apr. 1	12,000

The accounts without balances in the illustration are shown for comparative purposes. They will be set up in the general ledger at the time the adjusting entry is posted.

No rental income appears under Method A and the proper adjusting entry includes a credit of $4,500 to the Rental Income account. The rental income earned is for nine months—April 1 to December 31—at $500 a month, or $4,500. The offsetting debit is to the Prepaid Rental Income account. The debit reduces the balance of this liability account to $7,500. As of December 31, 1960, the rent is prepaid for a period of 15 months. The rent applicable to the 15-month period, at $500 a month, is $7,500. The adjusting entry under Method A is:

1960 Dec.	31	Prepaid rental income		4,500.00	
		Rental income			4,500.00

Under Method B, the balance of the Rental Income account, at December 31, 1960, is $12,000. A debit of $7,500 is recorded in the Rental Income account to reduce the balance to $4,500. The offsetting credit is to the Prepaid Rental Income account. The credit records the correct amount of the liability at December 31, 1960. The adjusting entry under Method B is:

1960 Dec.	31	Rental income		7,500.00	
		Prepaid rental income			7,500.00

After posting the adjusting entry, the ledger accounts will appear as shown below:

METHOD A

Prepaid Rental Income

1960 Dec. 31	(A)	4,500	1960 Apr. 1		12,000

Rental Income

			1960 Dec. 31	(A)	4,500

METHOD B

Prepaid Rental Income

			1960 Dec. 31	(A)	7,500

Rental Income

1960 Dec. 31	(A)	7,500	1960 Apr. 1		12,000

Under either method, the balance of the Prepaid Rental Income account is $7,500. Under either method, the balance of the Rental Income account is $4,500. The accounts that are illustrated above would appear on the completed worksheet as follows:

METHOD A

Account	Trial Balance		Adjustments		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Prepaid rental income		12,000	4,500					7,500
	XXX	XXX						
Rental income				4,500		4,500		

METHOD B

Account	Trial Balance		Adjustments		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Rental income		12,000	7,500			4,500		
	XXX	XXX						
Prepaid rental income				7,500				7,500

Under either method, the balance sheet, as of December 31, 1960, shows prepaid rental income in the amount of $7,500. Under either method, the income statement for the year ended December 31, 1960, shows rental income of $4,500.

Under either method, the entry to close the Rental Income account of the S Company is as follows:

1960 Dec.	31	Rental income		4,500.00	
		Income summary			4,500.00
		To close the Rental Income account			

After the closing entry has been posted and the accounts have been balanced and ruled, they appear as follows:

METHOD A

Prepaid Rental Income

1960 Dec. 31	(A)	4,500	1960 Apr. 1		12,000
31	Bal.	7,500			
		12,000			12,000
			1961 Jan. 1	Bal.	7,500

Rental Income

1960 Dec. 31	(C)	4,500	1960 Dec. 31	(A)	4,500

METHOD B

Prepaid Rental Income

1960 Dec. 31	Bal.	7,500	1960 Dec. 31	(A)	7,500
			1961 Jan. 1	Bal.	7,500

Rental Income

1960 Dec. 31	(A)	7,500	1960 Apr. 1		12,000
31	(C)	4,500			
		12,000			12,000

In the above illustration, the adjusting entry is designated by (A) and the closing entry is designated by (C).

Reversing Entries for Prepaid Revenue Adjustments Under Method B, the $7,500 of unearned rental income now appears in the Prepaid Rental Income account. The advance collection of rent, however, was originally recorded in the Rental Income account. The adjusting entry that transferred the $7,500 of unearned rental income from the income account to the liability account should now be reversed. The reversing entry, which transfers the balance of the liability account back to the income account, is shown below:

1961 Jan.	1	Prepaid rental income		7,500.00	
		Rental income			7,500.00

Under Method A, the $7,500 of unearned rental income now appears in the Prepaid Rental Income account. The advance collection of rent was originally recorded in the Prepaid Rental Income account. There is no reversing entry under Method A. After posting the reversing entry that is applicable to Method B, the accounts appear as follows:

METHOD A

Prepaid Rental Income

1960			1960		
Dec. 31	(A)	4,500	Apr. 1		12,000
31	Bal.	7,500			
		12,000			12,000
			1961		
			Jan. 1	Bal.	7,500

Rental Income

1960			1960		
Dec. 31	(C)	4,500	Dec. 31	(A)	4,500

METHOD B

Prepaid Rental Income

1960			1960		
Dec. 31	Bal.	7,500	Dec. 31	(A)	7,500
1961			1961		
Jan. 1	(R)	7,500	Jan. 1	Bal.	7,500

Rental Income

1960			1960		
Dec. 31	(A)	7,500	Apr. 1		12,000
31	(C)	4,500			
		12,000			12,000
			1961		
			Jan. 1	(R)	7,500

The reversing entry is designated by (R).

Under Method B, the amount of unearned rental income at the beginning of the year 1961 *now* appears in the Rental Income account. Under this method, other rentals collected during 1961, if any, will be credited to the Rental Income account. Under Method A, the amount of unearned rental income at the beginning of the year 1961 is shown by the balance of the Prepaid Rental Income account. Under Method A, other rentals collected *in advance* during 1961, if any, will be credited to the Prepaid Rental Income account at the time of receipt.

Method A may be used for one kind of unearned revenue and Method B may be used for another kind. The method chosen for a particular kind of unearned revenue should be used consistently from year to year.

There are no reversing entries in regard to prepaid revenue adjustments if the amounts collected in advance are credited to liability accounts at the time of receipt. There are reversing entries in regard to prepaid revenue adjustments if the amounts collected in advance are credited to income accounts at the time of receipt.

Completion of Illustration of Prepaid Rental Income Financial statements for the S Company are prepared at the end of the fiscal year only. What is the amount of the liability for unearned rental income as

of December 31, 1961, and what is the amount of rental income earned during the year ended December 31, 1961? The rental property was occupied by the lessee during the entire year. The amount of rent applicable to the year 1961, at $500 a month, is $6,000. This is the amount of rental income earned during the year. The amount of unearned rental income at the beginning of the year was $7,500; and, therefore, the amount of unearned rental income at the end of the year is $1,500 ($7,500 – $6,000). The period for which the lessee has prepaid the rent ends March 31, 1962. Thus, as of December 31, 1961, the rent is prepaid for three months at $500 a month.

A trial balance, as of December 31, 1961, reveals balances in the accounts as indicated:

	METHOD A		METHOD B	
	Dr.	Cr.	Dr.	Cr.
Prepaid rental income		7,500		–0–
Rental income		–0–		7,500

Prepaid rental income in the amount of $1,500 should appear in the balance sheet as of December 31, 1961. Rental income in the amount of $6,000 should appear in the income statement for the year ended December 31, 1961. An adjusting entry in the amount of $6,000 must be made under Method A, and an adjusting entry in the amount of $1,500 must be made under Method B. The adjusting entry, as of December 31, 1961, is as follows:

METHOD A			METHOD B		
Prepaid rental income	6,000		Rental income	1,500	
Rental income		6,000	Prepaid rental income		1,500

After the above adjusting entry has been posted, the accounts appear as shown below:

METHOD A

Prepaid Rental Income

1961			1961		
Dec. 31	(A)	6,000	Jan. 1	Bal.	7,500

Rental Income

			1961		
			Dec. 31	(A)	6,000

METHOD B

Prepaid Rental Income

1961			1961		
Jan. 1	(R)	7,500	Jan. 1	Bal.	7,500
			Dec. 31	(A)	1,500

Rental Income

1961			1961		
Dec. 31	(A)	1,500	Jan. 1	(R)	7,500

Under either method, the balance of the Prepaid Rental Income account is $1,500. Under either method, the balance of the Rental Income account is $6,000.

Under either method, the entry to close the Rental Income account is as follows:

1961 Dec.	31	Rental income		6,000.00	
		Income summary			6,000.00
		To close the Rental Income account			

After the closing entry has been posted and the accounts have been balanced and ruled, they appear as follows:

METHOD A

Prepaid Rental Income

1961				1961			
Dec. 31	(A)	6,000		Jan. 1	Bal.	7,500	
31	Bal.	1,500					
		7,500				7,500	
				1962			
				Jan. 1	Bal.	1,500	

Rental Income

1961				1961			
Dec. 31	(C)	6,000		Dec. 31	(A)	6,000	

METHOD B

Prepaid Rental Income

1961				1961			
Jan. 1	(R)	7,500		Jan. 1	Bal.	7,500	
Dec. 31	Bal.	1,500		Dec. 31	(A)	1,500	
		9,000				9,000	
				1962			
				Jan. 1	Bal.	1,500	

Rental Income

1961				1961			
Dec. 31	(A)	1,500		Jan. 1	(R)	7,500	
31	(C)	6,000					
		7,500				7,500	

Under Method B, a reversing entry is made as of January 1, 1962. Under Method A, reversing entries are not used. As of January 1, 1962, after the reversing entry (R) applicable to Method B has been posted, the accounts appear as follows:

METHOD A

Prepaid Rental Income

				1962			
				Jan. 1	Bal.	1,500	

Rental Income

METHOD B

Prepaid Rental Income

1962				1962			
Jan. 1	(R)	1,500		Jan. 1	Bal.	1,500	

Rental Income

				1962			
				Jan. 1	(R)	1,500	

Under either method, the amount of unearned rental income at the beginning of the year 1962 is now recorded in the account in which the advance collection of rent was originally recorded.

If rent is again collected in advance for two years on October 1, 1962, the prepayment will affect the amount of the adjusting entry that is made at the end of the year. Let us assume that the lease is not renewed and that no rental income is collected in 1962. What adjusting entry is made as of December 31, 1962? There is no prepaid rental income as of December 31, 1962. The rental income to be reported in 1962 in regard to the advance collection of April 1, 1960, is $1,500 (three months in 1962, at $500 a month). Under Method A, an adjusting entry is made to transfer the $1,500 balance in the liability account to the income account. Under Method B, the $1,500 balance is in the income account and no adjusting entry is necessary.

After the adjusting entry (Method A) has been posted, the accounts appear as follows:

METHOD A

Prepaid Rental Income

1962			1962		
Dec. 31	(A)	1,500	Jan. 1	Bal.	1,500

Rental Income

			1962		
			Dec. 31	(A)	1,500

METHOD B

Prepaid Rental Income

1962			1962		
Jan. 1	(R)	1,500	Jan. 1	Bal.	1,500

Rental Income

			1962		
			Jan. 1	(R)	1,500

The advance collection of rent on April 1, 1960, affected the above accounts in the three calendar fiscal years 1960, 1961, and 1962. The accounts are shown below as they appear for the three years. The closing entries have been posted and the accounts have been ruled at the end of the year 1962.

In the illustration (page 179): (A) designates an adjusting entry, (C) designates a closing entry, and (R) designates a reversing entry.

The amount of income reported in the income statement is the same regardless of which method is used. The amount of the advance collection that is shown as a liability in the balance sheet is the same regardless of which method is used. Either of the two methods may be used in regard to the recording of any revenue collected in advance.

Under Method A, the adjusting entry at the end of each fiscal period was a debit to Prepaid Rental Income and a credit to Rental Income. Under Method B, the adjusting entry at the end of each fiscal period (none at the end of 1962) was a debit to Rental Income and a credit to Prepaid Rental Income.

METHOD A

Prepaid Rental Income

1960			1960		
Dec. 31	(A)	4,500	Apr. 1		12,000
31	Bal.	7,500			
		12,000			12,000
1961			1961		
Dec. 31	(A)	6,000	Jan. 1	Bal.	7,500
31	Bal.	1,500			
		7,500			7,500
1962			1962		
Dec. 31	(A)	1,500	Jan. 1	Bal.	1,500

Rental Income

1960			1960		
Dec. 31	(C)	4,500	Dec. 31	(A)	4,500
1961			1961		
Dec. 31	(C)	6,000	Dec. 31	(A)	6,000
1962			1962		
Dec. 31	(C)	1,500	Dec. 31	(A)	1,500

METHOD B

Prepaid Rental Income

1960			1960		
Dec. 31	Bal.	7,500	Dec. 31	(A)	7,500
1961			1961		
Jan. 1	(R)	7,500	Jan. 1	Bal.	7,500
Dec. 31	Bal.	1,500	Dec. 31	(A)	1,500
		9,000			9,000
1962			1962		
Jan. 1	(R)	1,500	Jan. 1	Bal.	1,500

Rental Income

1960			1960		
Dec. 31	(A)	7,500	Apr. 1		12,000
31	(C)	4,500			
		12,000			12,000
1961			1961		
Dec. 31	(A)	1,500	Jan. 1	(R)	7,500
31	(C)	6,000			
		7,500			7,500
1962			1962		
Dec. 31	(C)	1,500	Jan. 1	(R)	1,500

Effect of Prepaid Revenue Adjustments on the Financial Statements

In regard to any prepaid revenue, if the advance collection was credited to a liability account at the time it was received, the adjusting entry is a *debit to the liability* account and a *credit to an income* account. As an example, the adjusting entry of December 31, 1960, that was recorded in regard to prepaid rental income of the S Company is reproduced below.

1960 Dec.	31	Prepaid rental income		4,500.00	
		Rental income			4,500.00

What is the effect of this prepaid revenue adjustment on the balance sheet that is prepared as of December 31, 1960, and on the income statement that is prepared for the year ended December 31, 1960? To show the effect of the adjustment on the financial statements, let us assume that the adjustment is not made. The omission of the debit to Prepaid Rental Income causes liabilities to be overstated by $4,500. The omission of the credit to Rental Income causes revenue and net income to be understated by $4,500. An understatement of net income for a year causes an understatement of retained earnings at the end of the year. Thus, capital in the balance sheet is understated by $4,500. The understatement of capital in the balance sheet is offset by the overstatement of liabilities.

ASSETS	=	LIABILITIES	+	CAPITAL
(correct)	=	(overstated $4,500)	+	(understated $4,500)

In regard to any prepaid revenue, if the advance collection was recorded as a liability, the omission of the adjusting entry at the end of a fiscal period causes net income for the period to be understated. The omission causes liabilities at the end of the period to be overstated and it causes capital at the end of the period to be understated.

In regard to any prepaid revenue, if the advance collection was credited to an income account at the time it was received, the adjusting entry is a *debit to the income* account and a *credit to a liability* account. As an example, the adjustment of December 31, 1960 (Method B) that was recorded in regard to prepaid rental income of the S Company is reproduced below:

1960 Dec.	31	Rental income		7,500.00	
		Prepaid rental income			7,500.00

What is the effect of this prepaid revenue adjustment on the balance sheet that is prepared as of December 31, 1960, and on the income statement that is prepared for the year ended December 31, 1960? To show the effect of the adjustment on the financial statements, let us assume that the adjustment is not made. The omission of the credit to Prepaid Rental Income causes liabilities to be understated by $7,500. The omission of the debit to Rental Income causes revenue and net income to be overstated by $7,500. An overstatement of net income for a year causes an overstatement of retained earnings at the end of the year. Thus, capital in the balance sheet is overstated by $7,500. The overstatement of capital in the balance sheet is offset by the understatement of liabilities.

ASSETS	=	LIABILITIES	+	CAPITAL
(correct)	=	(understated $7,500)	+	(overstated $7,500)

In regard to any prepaid revenue, if the advance collection was recorded as revenue, the omission of the adjusting entry at the end of a fiscal period causes net income for the period to be overstated. The omission causes liabilities at the end of the period to be understated and it causes capital at the end of the period to be overstated.

PREPAID EXPENSES

Commodities and services are purchased to be utilized in the operations of the business for the purpose of producing revenues. Commodities and services that have been purchased are assets until they are consumed. Expense is incurred as a commodity or service is utilized or consumed. The portion of a commodity or service purchased for consumption that is unconsumed at the end of the fiscal period is known as a *prepaid expense.* Examples of commodities and services common to this category are insurance, rent, interest, and supplies. If a commodity or service will be completely consumed before the end of the fiscal period, an expense account is debited at the time of the purchase. In such a case, no prepaid expense exists at the end of the fiscal period.

What account should be debited at the time a commodity or service is purchased if part of the commodity or service will be unconsumed at the end of the fiscal period? The debit may be to an asset account such as *Prepaid Insurance Expense, Prepaid Rent Expense, Prepaid Interest Expense,* or *Supplies;* or the debit may be to an expense account such as *Insurance Expense, Rent Expense, Interest Expense,* or *Supplies Used.* In either case, an adjusting entry is made at the end of the accounting period to apportion the cost of the commodity or service between the asset account and the expense account. If the purchase was recorded by a debit to an asset account (a prepaid expense account), an adjusting entry is made to remove the cost of the *consumed portion* from the asset account and to record it as expense. If the purchase was recorded by a debit to an expense account, an adjusting entry is made to remove the cost of the *unconsumed portion* from the expense account and to set it up as an asset. At the end of the fiscal period, prior to the adjusting entry, the balance of the account that was debited at the time of the purchase includes the cost of the consumed portion of the commodity or service (an expense) and the cost of the unconsumed portion of the commodity or service (an asset). The account may be referred to as a mixed account.

If a commodity or service is consumed during several fiscal periods, a part of the cost of the commodity or service is recorded as expense in each of those fiscal periods. In such a case, a diminishing amount is shown as an asset in the balance sheet at the end of each succeeding fiscal period until the commodity or service is completely consumed.

Prepaid Rent Expense

The accounting entries that arise in connection with the recording of rent paid in advance (prepaid rent expense) are illustrated in the following pages. The entries that arise in connection with the recording of other prepaid expenses are made in a similar manner.

Let us assume the following facts concerning the R Company:

1. The fiscal year of the Company ends December 31.
2. Financial statements for the Company are prepared at the end of the fiscal year only.
3. The Company leased some property from the S Company for a two-year period beginning April 1, 1960. The Company has no other rent expense.
4. The total rent of $12,000 for the two-year period was paid to the lessor on April 1, 1960.

The computation of the rent expense incurred is based on time. The rental property will be occupied by the lessee for nine months in 1960, for twelve months in 1961, and for three months in 1962. The rent expense incurred each month is $500 ($12,000 divided by 24 months). Thus, the lessee will incur expense as follows: $4,500 in 1960, $6,000 in 1961, and $1,500 in 1962. Since $4,500 will be the expense incurred in 1960, the prepaid rent expense at the end of 1960 will be $7,500 ($12,000 − $4,500). The expense incurred in 1961 will be $6,000 and the prepaid rent expense at the end of 1961 will be $1,500 ($7,500 − $6,000).

Recording Expense Paid in Advance The payment of rent in advance on April 1, 1960, may be recorded by a debit to an asset account entitled Prepaid Rent Expense or to an expense account entitled Rent Expense. Other titles that may be used for the asset account are Unexpired Rent Expense and Rent Paid in Advance. In the illustrations that follow, Method A shows the entries that are made if the advance payment is debited to the asset account and Method B shows the entries that are made if the advance payment is debited to the expense account. The entry to record the advance payment is shown below in general journal form:

METHOD A

1960 Apr.	1	Prepaid rent expense		12,000.00	
		Cash			12,000.00
		(Advance payment recorded as an asset)			

METHOD B

1960 Apr.	1	Rent expense		12,000.00	
		Cash			12,000.00
		(Advance payment recorded as expense)			

Adjustments for Prepaid Expenses Under Method A, the trial balance as of December 31, 1960, will show a debit balance of $12,000 for Prepaid Rent Expense and no Rent Expense account will appear. Under Method B, the trial balance will show a debit balance of $12,000 for Rent Expense and no Prepaid Rent Expense account will appear. The accounts as they appear at December 31, 1960, before adjustment, are shown below:

METHOD A

Prepaid Rent Expense

1960 Apr. 1	12,000		

Rent Expense

METHOD B

Prepaid Rent Expense

Rent Expense

1960 Apr. 1	12,000		

The accounts without balances in the illustration are shown for comparative purposes. They will be set up in the general ledger at the time the adjusting entry is posted.

No rent expense appears under Method A and the proper adjusting entry includes a debit of $4,500 to the Rent Expense account. The rent expense incurred is for nine months—April 1 to December 31—at $500 a month. The offsetting credit is to the Prepaid Rent Expense account. The credit reduces the balance of this asset account to $7,500. As of December 31, 1960, the rent is prepaid for a period of 15 months. The rent applicable to the 15-month period, at $500 a month, is $7,500. The adjusting entry under Method A is:

1960 Dec.	31	Rent expense		4,500.00	
		Prepaid rent expense			4,500.00

Under Method B, the balance of the Rent Expense account, at December 31, 1960, before adjustment, is $12,000. A credit of $7,500 is recorded in the Rent Expense account to reduce the balance to $4,500. The offsetting debit is to the Prepaid Rent Expense account. The debit records the correct amount of the asset at December 31, 1960. The adjusting entry under Method B is:

1960 Dec.	31	Prepaid rent expense		7,500.00	
		Rent expense			7,500.00

After the adjusting entry is posted, the ledger accounts will appear as shown below:

METHOD A

Prepaid Rent Expense

1960 Apr. 1		12,000	1960 Dec. 31	(A)	4,500		

Rent Expense

1960 Dec. 31	(A)	4,500					

METHOD B

Prepaid Rent Expense

1960 Dec. 31	(A)	7,500					

Rent Expense

1960 Apr. 1		12,000	1960 Dec. 31	(A)	7,500		

Under either method, the balance of the Prepaid Rent Expense account is $7,500. Under either method, the balance of the Rent Expense account is $4,500.

The accounts that are illustrated above would appear on the completed worksheet as follows:

METHOD A

Account	Trial Balance		Adjustments		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Prepaid rent expense	12,000			4,500			7,500	
	XXX	XXX						
Rent expense			4,500		4,500			

METHOD B

Account	Trial Balance		Adjustments		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Dr.
Rent expense	12,000			7,500	4,500			
	XXX	XXX						
Prepaid rent expense			7,500				7,500	

Under either method, the balance sheet, as of December 31, 1960, shows prepaid rent expense in the amount of $7,500. Under either method, the income statement for the year ended December 31, 1960, shows rent expense of $4,500.

Under either method, the entry to close the Rent Expense account of the R Company is as follows:

1960 Dec.	31	Income summary		4,500.00	
		Rent expense			4,500.00
		To close the Rent Expense account			

After the closing entry has been posted and the accounts have been balanced and ruled, they appear as follows:

METHOD A

Prepaid Rent Expense

1960 Apr. 1		12,000	1960 Dec. 31	(A)	4,500		
			31	Bal.	7,500		
		12,000			12,000		
1961 Jan. 1	Bal.	7,500					

Rent Expense

1960 Dec. 31	(A)	4,500	1960 Dec. 31	(C)	4,500		

METHOD B

Prepaid Rent Expense

1960 Dec. 31	(A)	7,500	1960 Dec. 31	Bal.	7,500		
1961 Jan. 1	Bal.	7,500					

Rent Expense

1960 Apr. 1		12,000	1960 Dec. 31	(A)	7,500		
			31	(C)	4,500		
		12,000			12,000		

The adjusting entry is designated by (A) and the closing entry is designated by (C) in the above illustration.

Reversing Entries for Prepaid Expense Adjustments Under Method B, the $7,500 of prepaid rent expense now appears in the Prepaid Rent Expense account. The advance payment of rent, however, was originally recorded in the Rent Expense account. The adjusting entry that transferred the $7,500 of unexpired rent expense from the expense account to the asset account should now be reversed. The reversing entry, which transfers the balance of the asset account back to the expense account, is shown below:

1961 Jan.	1	Rent expense Prepaid rent expense		7,500.00	7,500.00

Under Method A, the $7,500 of unexpired rent expense appears in the Prepaid Rent Expense account. The advance payment of rent was originally recorded in the Prepaid Rent Expense account. There is no reversing entry under Method A. After the reversing entry that is applicable to Method B is posted, the accounts appear as follows:

METHOD A

Prepaid Rent Expense

1960 Apr. 1	12,000	1960 Dec. 31 (A)	4,500
		31 Bal.	7,500
	12,000		12,000
1961 Jan. 1 Bal.	7,500		

Rent Expense

1960 Dec. 31 (A)	4,500	1960 Dec. 31 (C)	4,500

METHOD B

Prepaid Rent Expense

1960 Dec. 31 (A)	7,500	1960 Dec. 31 Bal	7,500
1961 Jan. 1 Bal.	7,500	1961 Jan. 1 (R)	7,500

Rent Expense

1960 Apr. 1	12,000	1960 Dec. 31 (A)	7,500
		31 (C)	4,500
	12,000		12,000
1961 Jan. 1 (R)	7,500		

In the above illustration, the reversing entry is designated by (R).

Under Method B, the amount of unexpired rent expense at the beginning of the year 1961 *now* appears in the Rent Expense account. Under this method, other rent paid during 1961, if any, will be debited to the Rent Expense account. Under Method A, the amount of unexpired rent expense at the beginning of the year 1961 is shown by the balance

of the Prepaid Rent Expense account. Under Method A, other rent paid *in advance* during 1961, if any, will be debited to the Prepaid Rent Expense account at the time of payment.

There are no reversing entries in regard to prepaid expense adjustments if the prepaid expenses were debited to asset accounts at the time of purchase. There are reversing entries in regard to prepaid expense adjustments if the prepaid expenses were debited to expense accounts at the time of purchase.

Completed Illustration of Prepaid Rent Expense Let us assume that the lease which expires on March 31, 1962, is not renewed and that the R Company incurred no other rent expense during the years 1960, 1961, and 1962. The advance payment of rent on April 1, 1960, affects the Prepaid Rent Expense account and the Rent Expense account in each of the three calendar fiscal years: 1960, 1961, and 1962. The accounts are shown below as they appear for the three years. The closing entries have been posted and the accounts have been ruled at the end of the year 1962.

METHOD A

Prepaid Rent Expense

1960			1960				
Apr. 1		12,000	Dec. 31	(A)		4,500	
			31	Bal.		7,500	
		12,000				12,000	
1961			1961				
Jan. 1	Bal.	7,500	Dec. 31	(A)		6,000	
			31	Bal.		1,500	
		7,500				7,500	
1962			1962				
Jan. 1	Bal.	1,500	Dec. 31	(A)		1,500	

Rent Expense

1960			1960				
Dec. 31	(A)	4,500	Dec. 31	(C)		4,500	
1961			1961				
Dec. 31	(A)	6,000	Dec. 31	(C)		6,000	
1962			1962				
Dec. 31	(A)	1,500	Dec. 31	(C)		1,500	

METHOD B

Prepaid Rent Expense

1960			1960				
Dec. 31	(A)	7,500	Dec. 31	Bal.		7,500	
1961			1961				
Jan. 1	Bal.	7,500	Jan. 1	(R)		7,500	
Dec. 31	(A)	1,500	Dec. 31	Bal.		1,500	
		9,000				9,000	
1962			1962				
Jan. 1	Bal.	1,500	Jan. 1	(R)		1,500	

Rent Expense

1960			1960				
Apr. 1		12,000	Dec. 31	(A)		7,500	
			31	(C)		4,500	
		12,000				12,000	
1961			1961				
Jan. 1	(R)	7,500	Dec. 31	(A)		1,500	
			31	(C)		6,000	
		7,500				7,500	
1962			1962				
Jan. 1	(R)	1,500	Dec. 31	(C)		1,500	

In the above illustration: (A) designates an adjusting entry, (C) designates a closing entry, and (R) designates a reversing entry.

The amount of expense deducted in the income statement is the same regardless of which method is used. The amount of the advance payment that is shown as an asset in the balance sheet is the same regardless of which method is used. Either of the methods may be used in regard to the recording of any prepaid expense. The method chosen for a particular kind of prepaid expense should be used consistently from year to year.

Under Method A, the adjusting entry at the end of each fiscal period was a debit to Rent Expense and a credit to Prepaid Rent Expense. Under Method B, the adjusting entry at the end of each fiscal period (none at the end of 1962) was a debit to Prepaid Rent Expense and a credit to Rent Expense.

Effect of Prepaid Expense Adjustments on the Financial Statements

In regard to any prepaid expense, if an asset account was charged at the time of purchase, the adjusting entry is a *debit to an expense* account and a *credit to the asset* account. As an example, the adjusting entry of December 31, 1960, that was recorded in regard to the prepaid rent expense of the R Company is reproduced below:

1960 Dec.	31	Rent expense		4,500.00	
		Prepaid rent expense			4,500.00

What is the effect of this prepaid expense adjustment on the balance sheet that is prepared as of December 31, 1960, and on the income statement that is prepared for the year ended December 31, 1960? To show the effect of the adjustment on the financial statements, let us assume that the adjustment is not made. The omission of the credit to Prepaid Rent Expense causes assets to be overstated by $4,500. The omission of the debit to Rent Expense causes expense to be understated by $4,500. This understatement of total expense causes the net income to be overstated by $4,500. An overstatement of net income for a year causes an overstatement of retained earnings at the end of the year. Thus, capital in the balance sheet is overstated by $4,500. The

overstatement of capital in the balance sheet is offset by the overstatement of assets.

ASSETS = LIABILITIES + CAPITAL
(overstated $4,500) = (correct) + (overstated $4,500)

In regard to any prepaid expense, if the purchase was recorded as an asset, the omission of the adjusting entry at the end of a fiscal period causes net income for the period to be overstated. The omission causes assets and capital at the end of the period to be overstated.

In regard to any prepaid expense, if an expense account was charged at the time of purchase, the adjusting entry is a *debit to an asset* account and a *credit to the expense* account. As an example, the adjusting entry of December 31, 1960 (Method B) that was recorded in regard to prepaid rent expense of the R Company is reproduced below:

1960 Dec.	31	Prepaid rent expense		7,500.00	
		Rent expense			7,500.00

What is the effect of this prepaid expense adjustment on the balance sheet that is prepared as of December 31, 1960, and on the income statement that is prepared for the year ended December 31, 1960? To show the effect of the adjustment on the financial statements, let us assume that the adjustment is not made. The omission of the debit to Prepaid Rent Expense causes assets to be understated by $7,500. The omission of the credit to Rent Expense causes expense to be overstated by $7,500. This overstatement of total expense causes the net income to be understated by $7,500. An understatement of net income for a year causes an understatement of retained earnings at the end of the year. Thus, capital in the balance sheet is understated by $7,500. The understatement of capital in the balance sheet is offset by the understatement of assets.

ASSETS = LIABILITIES + CAPITAL
(understated $7,500) = (correct) + (understated $7,500)

In regard to any prepaid expense, if the purchase was recorded as an expense, the omission of the adjusting entry at the end of the fiscal period causes net income for the period to be understated. The omission causes assets and capital at the end of the period to be understated.

Computations for Prepaid Revenues and Prepaid Expenses

Commonly, the computations for prepaid revenues and prepaid expenses are based on the passage of time. The computations for some prepaid items, however, are not based on the passage of time. For example, the computation of the amount of prepaid expense in regard to supplies should be determined by taking an inventory of the supplies on hand at the date of the balance sheet. As an additional example, if the operator of a garage collects in advance for a series of car lubrications, the amount of prepaid revenue (and the amount of revenue) depends upon the number of lubrications performed.

QUESTIONS

1. What is prepaid revenue or unearned revenue?
2. What is prepaid expense?
3. What is a mixed account?
4. If revenue received in advance will be completely earned before the end of the fiscal period, what type of account should be credited at the time the revenue is collected?
5. What type of account should be debited at the time a commodity or service is purchased if the commodity or service will be completely consumed in the operations of the business during the current fiscal period?
6. If revenue received in advance during a year was credited to a liability account at the time of receipt and if part of the revenue is earned during the year, the failure to make an adjusting entry at the end of the year will have what effect upon: (a) The net income reported for the year? (b) The assets shown in the balance sheet at the end of the year? (c) The liabilities shown in the balance sheet at the end of the year? (d) The capital shown in the balance sheet at the end of the year?
7. If revenue received in advance during a year was credited to an income account at the time of receipt and if part of the revenue is unearned as of the end of the year, the failure to make an adjusting entry at the end of the year will have what effect upon: (a) The net income reported for the year? (b) The assets shown in the balance sheet at the end of the year? (c) The liabilities shown in the balance sheet at the end of the year? (d) The capital shown in the balance sheet at the end of the year?
8. If expense paid in advance during a year was debited to an asset account at the time of payment and if part of the commodity or service is consumed during the year, the failure to make an adjusting entry at the end of the year will have what effect upon: (a) The net income reported for the year? (b) The assets shown in the balance sheet at the end of the year? (c) The liabilities shown in the balance sheet at the end of the year? (d) The capital shown in the balance sheet at the end of the year?

9. If expense paid in advance during a year was debited to an expense account at the time of payment and if part of the commodity or service is unconsumed as of the end of the year, the failure to make an adjusting entry at the end of the year will have what effect upon: (a) The net income reported for the year? (b) The assets shown in the balance sheet at the end of the year? (c) The liabilities shown in the balance sheet at the end of the year? (d) The capital shown in the balance sheet at the end of the year?
10. Are reversing entries made in regard to the adjusting entries for unearned revenues?
11. Are reversing entries made in regard to the adjusting entries for prepaid expenses?
12. How should the amount of prepaid expense in regard to supplies be determined?

PROBLEMS

Problem 9-1

On March 1, 1960, Long-Way Company paid in advance to Good Properties Company $9,000 rent for 1½ years on a parking lot. The property will not be leased after September 1, 1961. Long-Way Company has no other rent expense. Good Properties Company has no other rental income. Each company has a fiscal year ending June 30, and financial statements are prepared for each company at the end of the fiscal year only.

(A) The advance payment of the rent to Good Properties Company by Long-Way Company was recorded as follows:

BOOKS OF LONG-WAY COMPANY

1960 Mar.	1	Prepaid rent expense	9,000	
		Cash		9,000

BOOKS OF GOOD PROPERTIES COMPANY

1960 Mar.	1	Cash	9,000	
		Prepaid rental income		9,000

(a) Prepare the following entries, (1) for Long-Way Company and (2) for Good Properties Company:

June 30, 1960—The adjusting entry
June 30, 1960—The closing entry
June 30, 1961—The adjusting entry
June 30, 1961—The closing entry
June 30, 1962—The adjusting entry
June 30, 1962—The closing entry

(b) Set up the rental accounts as shown below:

BOOKS OF LONG-WAY COMPANY

Prepaid Rent Expense

1960 Mar. 1	9,000		

Rent Expense

BOOKS OF GOOD PROPERTIES COMPANY

Prepaid Rental Income

		1960 Mar. 1	9,000

Rental Income

Post the adjusting and closing entries of June 30, 1960. Balance and rule the accounts.

(B) The advance payment of the rent to Good Properties Company by Long-Way Company was recorded as follows:

BOOKS OF LONG-WAY COMPANY

1960 Mar.	1	Rent expense	9,000	
		Cash		9,000

BOOKS OF GOOD PROPERTIES COMPANY

1960 Mar.	1	Cash	9,000	
		Rental income		9,000

(a) Prepare the following entries: (1) for Long-Way Company, and (2) for Good Properties Company:

June 30, 1960—The adjusting entry
June 30, 1960—The closing entry
July 1, 1960—The reversing entry
June 30, 1961—The adjusting entry
June 30, 1961—The closing entry
July 1, 1961—The reversing entry
June 30, 1962—The entry or entries required to adjust and close.

(b) Set up the rental accounts as shown below:

BOOKS OF LONG-WAY COMPANY

Prepaid Rent Expense

Rent Expense

1960 Mar. 1	9,000		

BOOKS OF GOOD PROPERTIES COMPANY

Prepaid Rental Income

Rental Income

		1960 Mar. 1	9,000

Post the adjusting and closing entries of June 30, 1960. Balance and rule the accounts. Post the reversing entry of July 1, 1960.

Problem 9-2

Financial statements for Kenly Company are prepared at the end of the fiscal year only. The failure to record adjusting entries, as of December 31, 1960, for each of the items listed below caused inaccuracies in the financial statements of 1960. Using the form below, show the amount of the understatement or overstatement, if any, of assets, liabilities, capital, and net income that resulted from the omission of each adjusting entry and show the total understatement or overstatement of assets, liabilities, capital, and net income. Use a plus sign (+) to indicate an overstatement and a minus sign (−) to indicate an understatement.

Items:

(a) Accrued commissions payable at December 31, 1960, amounted to $420.

(b) The premium of $300 on a one-year insurance policy beginning October 1, 1960, was paid on October 4. The Prepaid Insurance account was debited at the time of payment.

(c) Interest was paid in advance on a $6,000, 60-day note payable discounted at 7% at First National Bank on December 16, 1960. The Interest Expense account was debited for the interest prepaid.

(d) Rent of $600 was collected in advance for one year on November 1, 1960. The Rental Income account was credited for the $600 received.

(e) Interest was collected in advance on a $5,000, 30-day note received on December 11, 1960. The discount rate was 6%. The date of the note was December 11. The Prepaid Interest Income account was credited for the amount of interest collected in advance.

(f) Accrued interest receivable on notes amounted to $180 at December 31, 1960.

	December 31, 1960			Net Income for the Year
Item	Assets	Liabilities	Capital	Ended December 31, 1960
(a)	$-0-	−$420	+$420	+$420
(b)				
(c)				
(d)				
(e)				
Totals	$	$	$	$

Problem 9-3

(A) Using the data below, compute the amount of insurance expense for the year ended December 31, 1960:

Prepaid insurance:

January 1, 1960–$1,424

December 31, 1960–$1,360

Insurance premiums paid during the year ended December 31, 1960–$2,240.

(B) Using the data below, compute the amount of rental income for the year ended December 31, 1960:
Prepaid rental income:
January 1, 1960—$3,240
December 31, 1960—$2,760
Rent collected during the year ended December 31, 1960—$9,300.

(C) Using the data below, compute the amount of rent paid during the year ended December 31, 1960:
Rent paid in advance:
January 1, 1960—$2,400
December 31, 1960—$1,960
Rent expense for the year ended December 31, 1960—$2,260.

(D) Using the data below, compute the amount of rent collected during the year ended December 31, 1960:
Rent collected in advance:
January 1, 1960—$3,200
December 31, 1960—$2,480
Rental income for the year ended December 31, 1960—$5,600.

(E) Using the data below, compute the amount of unexpired insurance as of January 1, 1960:
Unexpired insurance, December 31, 1960—$1,850
Insurance premiums paid during the year ended December 31, 1960—$3,330
Insurance expense for the year ended December 31, 1960—$2,660.

(F) Using the data below, compute the amount of unearned rental income as of December 31, 1960:
Unearned rental income, January 1, 1960—$2,200
Rent collected during the year ended December 31, 1960—$7,200
Rental income for the year ended December 31, 1960—$7,480.

(G) Using the data below, compute the amount of interest expense for the year ended December 31, 1960:
Prepaid interest expense:
January 1, 1960—$300
December 31, 1960—$240
Accrued interest payable:
January 1, 1960—$180
December 31, 1960—$330
Interest paid during the year ended December 31, 1960—$660.

(H) Using the data below, compute the amount of interest income for the year ended December 31, 1960:
Prepaid interest income:
January 1, 1960—$100
December 31, 1960—$96
Accrued interest receivable:
January 1, 1960—$210
December 31, 1960—$192
Interest received during the year ended December 31, 1960—$250.

SUPPLEMENTARY PROBLEMS

Problem 9-4

The trial balance of Anstrom Company at the end of the fiscal year, December 31, 1963, appears below:

	Dr.	Cr.
Cash	$ 1,100	
Accounts receivable	7,600	
Notes receivable	11,000	
Prepaid insurance	1,800	
Inventory	14,300	
Accounts payable		$ 6,500
Notes payable		10,000
Capital stock		10,000
Retained earnings		3,200
Sales		65,600
Sales returns and allowances	400	
Cost of goods sold	36,400	
Salaries	10,000	
Commissions expense	2,800	
Insurance expense	1,700 *	
Rent expense	4,200	
Miscellaneous expenses	3,400	
Interest income		600
Interest expense	1,200	
	$95,900	$95,900

* The balance of the Insurance Expense account consists of insurance premiums paid on a monthly basis.

From the trial balance and other data given below, prepare the completed worksheet of Anstrom Company. No retained earnings columns are to be used on the worksheet.

Additional data:

(a) The balance of the Notes Receivable account includes a $6,000, 5%, 90-day note dated November 1, 1963.

(b) The balance of the Notes Receivable account includes a $5,000, non-interest-bearing, 60-day note dated December 19, 1963. On December 19, 1963, Anstrom Company received the interest in advance on this note. The discount received was computed at 6%.

(c) The balance of the Prepaid Insurance account is the amount of the premium paid on a one-year policy beginning August 1, 1963.

(d) The note payable—$10,000—is a 60-day note that was discounted at the bank on December 16, 1963; discount rate 6%.

(e) Commissions are owed to an agent for sales made by him in October, November, and December. The amount of the commission owed to him is $250. (Form 18)

Problem 9-5

Using the data below, compute:

(A) The amount of interest income for the year ended December 31, 1962.
(B) The amount of interest expense for the year ended December 31, 1962.

	January 1, 1962	December 31, 1962
Accrued interest receivable	$432	$ 84
Accrued interest payable	880	764
Prepaid interest expense	120	90
Prepaid interest income	100	120

The amount of interest received during the year ended December 31, 1962, was $1,890.

The amount of interest paid during the year ended December 31, 1962, was $2,460. (Form 3)

Problem 9-6

At the end of the fiscal year, December 31, 1963, the omission of adjusting entries in regard to prepaid revenues and prepaid expenses caused inaccuracies in the financial statements of Angda Company. Financial statements for the company are prepared at the end of the fiscal year only. Adjusting entries should have been made in regard to the following items:

(a) Insurance expired during the year, $720. All premium payments were recorded by debits to the Unexpired Insurance account.
(b) Rental income earned during the year, $1,440. All rents received were recorded by credits to the Unearned Rental Income account.
(c) Prepaid interest expense, December 31, 1963, $120. All interest payments were recorded by debits to the Interest Expense account.
(d) Prepaid interest income, December 31, 1963, $124. All interest collections were recorded by credits to the Interest Income account.

Required:

(A) Prepare a schedule showing the amount of the understatement or overstatement, if any, of assets, liabilities, and capital in the balance sheet of December 31, 1963, that resulted from the omission of each adjusting entry and show the total understatement or overstatement of assets, liabilities, and capital.
(B) Prepare a schedule showing the amount of the understatement or overstatement of net income for the year ended December 31, 1963, that resulted from the omission of each adjusting entry and show the total understatement or overstatement of net income. (Form 8)

Problem 9-7

On November 1, 1961, Handy Parking Company paid in advance to Longart Company $9,600 rent for two years on a parking lot. The property will not be leased after October 31, 1963. Handy Parking Company has no other rent expense. Longart Company has no other rental income. Each company has a fiscal year ending December 31, and financial statements are prepared for each company at the end of the fiscal year only.

The advance payment of the rent to Longart Company by Handy Parking Company was recorded as follows:

BOOKS OF HANDY PARKING COMPANY

1961 Nov.	1	Prepaid rent expense		9,600.00	
		Cash			9,600.00

BOOKS OF LONGART COMPANY

1961 Nov.	1	Cash		9,600.00	
		Rental income			9,600.00

Required:

(A) Prepare the adjusting entry that should be made by the accountant for Handy Parking Company as of each of the following dates:
  (a) December 31, 1961
  (b) December 31, 1962
  (c) December 31, 1963

(B) Prepare the adjusting entry that should be made by the accountant for Longart Company as of each of the following dates:
  (a) December 31, 1961
  (b) December 31, 1962
  (c) December 31, 1963

(C) Prepare the reversing entry that should be made by the accountant for Longart Company as of each of the following dates:
  (a) January 1, 1962
  (b) January 1, 1963
  (c) January 1, 1964

(Form 1)

10

Depreciation and Bad Debts

Expenditures

An expenditure is a payment, or the incurring of an obligation to pay, for an asset or a service. The length of the fiscal period is an important factor in determining whether an expenditure should be charged to an asset account or to an expense account. If an asset or service is expected to be completely consumed in the fiscal period in which the expenditure is made, the cost is charged to an expense account at the time of the expenditure. The cost of prepaid expense items, as indicated in the preceding chapter, may be charged to an asset account or to an expense account at the time of the expenditure. If an asset or service is expected to be utilized over a period of many years, the cost is usually debited to an asset account at the time of the expenditure. If an asset or service is consumed, or expires, over a period of time that includes many fiscal periods, the cost will be apportioned, as expense, to the fiscal periods in which the consumption or expiration occurs. In such a case, a diminishing amount is shown as an asset in the balance sheet at the end of each succeeding fiscal period until the asset is completely consumed.

Recording Expenditures for Fixed Assets Assets of a relatively permanent nature that are used in the operations of a business are known as *fixed assets.* Land, buildings, delivery equipment, and office equipment are examples of fixed assets. Most fixed assets are expected to be utilized over a period of many years and, therefore, the cost of a fixed asset is debited to an asset account at the time of the expenditure. Examples of such asset accounts are Land, Buildings, Delivery Equipment, and Office Equipment. Let us assume that the C Company pur-

chased some office equipment, on July 1, 1960, at a cost of $3,000. The entry to record this purchase of fixed assets is as follows:

1960 July	1	Office equipment		3,000.00	
		Cash			3,000.00

If payment is not made at the time of the purchase, the credit is to a liability account. If a note had been tendered by the C Company, the credit would have been to the Notes Payable account. The debit to the Office Equipment account is the same whether the expenditure consists of payment or the incurring of an obligation to pay. The subsequent entries to record depreciation (expense) are the same in either case.

DEPRECIATION

Depreciation of Fixed Assets

Most fixed assets have a limited useful existence. The cost of such fixed assets will be charged to expense over the life of the asset. The expense is known as *depreciation.* Buildings, delivery equipment, and office equipment are examples of fixed assets that have a limited useful life. At the end of each fiscal period, a portion of the cost of each of these assets is debited to a depreciation expense account. That portion of the cost of each of these assets that has not been charged to expense is shown in the balance sheet as an asset. Generally, land does not decline in usefulness and no depreciation is recorded in regard to land. The entire cost of land is shown in the balance sheet as an asset at the end of each fiscal period.

Commonly, the procedures for recording depreciation under the cash basis of accounting are the same as they are under the accrual basis. If an *absolute* cash basis were followed, however, the depreciable fixed assets would be charged to expense at the time of payment.

Adjustments for Depreciation The adjusting entries that arise in connection with the recording of depreciation of office equipment are illustrated in the following pages. The adjusting entries that arise in connection with the recording of depreciation of other fixed assets are made in a similar manner.

Let us assume the following facts concerning the C Company:

1. The fiscal year of the Company ends December 31.
2. Financial statements for the Company are prepared at the end of the fiscal year only.
3. The office equipment that the Company purchased for $3,000, on July 1, 1960 (entry above), is expected to have a useful life of ten years. The equipment is expected to have no salvage value [1] at the end of the ten-year period. The Company owns no other office equipment.
4. The straight-line method [2] of depreciation is in use.

The cost of the equipment ($3,000) will be recorded as expense over the ten-year period. One-tenth of the cost, or $300, will be charged to expense for each full year in which the equipment is utilized until the entire cost has been recorded as expense. Since the asset was in use for only six months during the fiscal year in which it was acquired, only $150 is recorded as depreciation expense at the end of the year. The adjusting entry of December 31, 1960, is shown below:

1960 Dec.	31	Depreciation expense—Office equipment		150.00	
		Allowance for depreciation—Office equipment			150.00
		To record depreciation of office equipment			

The depreciation, which represents the decline in usefulness of the asset, *could* be recorded by a debit to expense and a credit to the Office Equipment account. In such a case, the balance of the Office Equipment account, after the adjusting entry is posted, would be $2,850 ($3,000 − $150). The account might be shown in the balance sheet as follows:

Office equipment $2,850.00

The credit in the adjusting entry, however, is *not* to the Office Equipment account but to an account entitled Allowance for Depreciation—Office Equipment. After the adjusting entry has been posted, the general ledger accounts concerned appear as follows:

[1] The effect of salvage value on the recording of depreciation is shown in Chapter 18.

[2] Methods of depreciation are covered in Chapter 18.

BALANCE SHEET ACCOUNTS

Office Equipment

				Dr.	Cr.	Balance
1960 July	1		CD7	3,000.00		3,000.00

Allowance for Depreciation—Office Equipment

				Dr.	Cr.	Balance
1960 Dec.	31	Adjusting	J9		150.00	150.00

INCOME STATEMENT ACCOUNT

Depreciation Expense—Office Equipment

				Dr.	Cr.	Balance
1960 Dec.	31	Adjusting	J9	150.00		150.00

The Allowance for Depreciation—Office Equipment account is a valuation or minus asset account. The office equipment is shown in the balance sheet as follows:

Office equipment	$3,000.00	
Less allowance for depreciation	150.00	$2,850.00

Since the depreciation recorded on the equipment is determined by distributing the *cost* over the *estimated* useful life, it is desirable that the balance sheet and the accounts show the total cost of the office equipment and the accumulated depreciation. Data concerning the total cost and the accumulated depreciation are more readily available if an allowance for depreciation account is used.

A separate allowance for depreciation account is used for each depreciable fixed asset account. In the balance sheet, the balance of an allowance for depreciation account is deducted from the balance of the related asset account as illustrated above in regard to the Allowance for Depreciation—Office Equipment account. Additional examples of allowance for depreciation accounts are Allowance for Depreciation—Delivery Equipment and Allowance for Depreciation—Buildings. The title *reserve for depreciation* or *accumulated depreciation* may be used instead of *allowance for depreciation.*

A separate depreciation expense account may be used for each kind of fixed asset. Additional examples of depreciation expense accounts are Depreciation Expense–Delivery Equipment, and Depreciation Expense–Buildings.

Accumulation of Depreciation The office equipment that was purchased by the C Company on July 1, 1960, was in use for 12 months during the fiscal year ended December 31, 1961. The depreciation of the equipment for a full year is $300. Financial statements are prepared for the C Company at the end of the fiscal year only and, therefore, the amount of the adjusting entry is $300. The entry appears below:

1961 Dec.	31	Depreciation expense—Office equipment		300.00	
		Allowance for depreciation—Office equipment			300.00
		To record depreciation of office equipment			

After the adjusting entry has been posted, the accounts concerned appear as follows:

REAL ACCOUNTS

Office Equipment

				Dr.	Cr.	Balance
1961 Jan.	1	Balance		3,000.00		3,000.00

Allowance for Depreciation—Office Equipment

				Dr.	Cr.	Balance
1961 Jan.	1	Balance			150.00	150.00
Dec.	31	Adjusting	J8		300.00	450.00

NOMINAL ACCOUNT

Depreciation Expense—Office Equipment

				Dr.	Cr.	Balance
1961 Dec.	31	Adjusting	J8	300.00		300.00

The balance of the Allowance for Depreciation–Office Equipment account is the total amount of depreciation that has been recorded in

regard to the office equipment. The $450 balance consists of the following:

Depreciation recorded for the year ended December 31, 1960	$150.00
Depreciation recorded for the year ended December 31, 1961	300.00
Total depreciation recorded as of December 31, 1961	$450.00

This accumulated depreciation is deducted from the cost of the office equipment in the balance sheet of December 31, 1961, as follows:

Office equipment	$3,000.00	
Less allowance for depreciation	450.00	$2,550.00

The accounts that are illustrated above would appear on the completed worksheet of the C Company for the year ended December 31, 1961, as follows:

Account	Trial Balance		Adjustments		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Office equipment	3,000						3,000	
Allowance for depreciation—Office equipment		150		300				450
	XXX	XXX						
Depreciation expense—Office equipment			300		300			

The depreciation expense of the C Company is recorded at the end of the fiscal year only by an adjusting entry. Since each expense account is closed at the end of the fiscal year, no depreciation expense appears in the trial balance of December 31, 1961. The trial balance of December 31, 1961, however, shows a balance of $150 for the Allowance for Depreciation—Office Equipment account. This is the depreciation that was recorded for the year ended December 31, 1960. The adjusting entry of December 31, 1961, increases the balance of the Allowance for Depreciation—Office Equipment account to $450 as shown on the worksheet. If there is no change in the Office Equipment account, an additional $300 of depreciation will be recorded by adjusting

entry at December 31, 1962. The accumulated depreciation as shown by the balance of the Allowance for Depreciation—Office Equipment account at December 31, 1962, will be $750.

Reversing entries are not applicable to depreciation adjusting entries.

Effect of Depreciation Adjustments on the Financial Statements

The adjusting entry to record the depreciation of any fixed asset is a debit to a depreciation expense account and a credit to an allowance for depreciation account. As an example, the adjusting entry of December 31, 1961, that was recorded in regard to the depreciation of office equipment of the C Company is reproduced below:

1961 Dec.	31	Depreciation expense—Office equipment		300.00	
		Allowance for depreciation—Office equipment			300.00

What is the effect of this depreciation adjustment on the balance sheet that is prepared as of December 31, 1961, and on the income statement that is prepared for the year ended December 31, 1961? To show the effect of the adjustment on the financial statements, let us assume that the adjustment is not made. The omission of the credit to Allowance for Depreciation—Office Equipment causes assets to be overstated by $300. The omission causes the balance of the Allowance for Depreciation—Office Equipment account to be understated by $300. In the balance sheet, the balance of the allowance for depreciation account is subtracted from the balance of the equipment account; therefore, the net amount shown for office equipment is overstated by $300. The omission of the debit to Depreciation Expense—Office Equipment causes expense to be understated by $300. This understatement of total expense causes the net income to be overstated by $300. An overstatement of net income for a year causes an overstatement of retained earnings at the end of the year. Thus, capital in the balance sheet is overstated by $300. The overstatement of capital in the balance sheet is offset by the overstatement of assets.

$$\text{ASSETS} = \text{LIABILITIES} + \text{CAPITAL}$$
$$(\text{overstated } \$300) = (\text{correct}) + (\text{overstated } \$300)$$

In regard to the depreciation of any fixed asset, the omission of the adjusting entry at the end of a fiscal period causes net income for the

period to be overstated. The omission causes assets and capital at the end of the period to be overstated.

BAD DEBTS

Under the accrual basis of accounting, all expenses are deducted in the income statement in the period in which the expenses are incurred. A company that makes sales on account will usually subsequently discover that some of the accounts are uncollectible. Losses due to uncollectible accounts are known as *bad debts.* The bad debts should be deducted in the income statement in the period in which they are incurred. Since the loss arises from the failure to collect a sale, the loss is incurred at the time the sale is made, regardless of when it is discovered that the account is uncollectible.

Adjusting Entry for Bad Debts

Let us assume that a company has sales on account of $80,000 for the fiscal year ended December 31, 1960, the first year of operations. Some bad debts are probably included in the accounts arising from these sales since rarely are all sales on account for a year collectible. As of December 31, 1960, the company has accounts receivable of $12,000. The income statement will show sales of $80,000. If no consideration is given to the probable uncollectible accounts included in the $12,000 of accounts receivable, no bad debt expense is deducted in the income statement and the net income for the year ended December 31, 1960, is overstated.

Furthermore, the balance sheet shows an amount for accounts receivable, as of December 31, 1960, that is in excess of the amount which the company will collect. If the financial statements are to present fairly the financial condition of the company on December 31, 1960, and the results of its operations for the year then ended, the probable uncollectible amount must be reflected in these statements. The particular accounts that will prove to be bad debts are unknown. The amount of the bad debts incurred during the year is *estimated* and an adjusting entry is made to record this amount. If the estimated amount of bad debts incurred is $800, the following entry is made:

1960 Dec.	31	Bad debts expense		800.00	
		Allowance for bad debts			800.00
		To provide for estimated bad debt losses			

The net income for the year ended December 31, 1960, is, thus, reduced by the amount of the estimated uncollectible sales made during the year. The income statement for the year will show a deduction of $800 for bad debts expense.

Since the particular accounts that will prove to be uncollectible are unknown, the credit in the adjusting entry is *not* to the Accounts Receivable account but to an account entitled Allowance for Bad Debts. The recorded amount of accounts receivable from customers, in the control account and in the subsidiary ledger, remains unchanged at $12,000. The amount of the accounts receivable that the company expects to collect, however, is only $11,200. The Allowance for Bad Debts account is a valuation or minus asset account. The balance of the Allowance for Bad Debts account offsets the balance of the Accounts Receivable account in the balance sheet as follows:

Accounts receivable	$12,000.00	
Less allowance for bad debts	800.00	$11,200.00

The title *Reserve for Bad Debts* is sometimes used instead of *Allowance for Bad Debts.*

Writing Off a Bad Debt It has been shown that bad debts are deducted in the income statement on an estimated basis in the year in which the sales are made. What happens when, subsequently, certain accounts are discovered to be uncollectible? Let us assume that the account of Ed Lash, a customer who owes $700, is discovered to be uncollectible. The account is written off by the following entry:

1961 June	30	Allowance for bad debts	700.00	
		Accounts receivable—Ed Lash		700.00
		To write off the account of Ed Lash		

Since expense in regard to the bad debt was recorded on an estimated basis in the year of sale (1960), it cannot again be deducted on an actual basis in the year in which the bad debt is discovered. The debit to write off a bad debt is to the Allowance for Bad Debts account. The write-off of an uncollectible account reduces the amount of accounts receivable, and the credit is to the Accounts Receivable account. The credit is, of course, to both the control account in the general ledger and the customer's account in the subsidiary ledger.

After the above entry has been posted, the Allowance for Bad Debts account will appear as follows:

ALLOWANCE FOR BAD DEBTS

				Dr.	Cr.	Balance
1960						
Dec.	31	Adjusting	J9		800.00	800.00
1961						
June	30		J4	700.00		100.00

Estimating Bad Debts The determination of the amount of the adjusting entry for bad debts at the end of a fiscal period may be based on:

(1) Sales of the period.
(2) Accounts receivable at the end of the period.

If the basis is sales, the *bad debt expense* of the period is usually computed as a percentage of the net sales of the period. If the basis is accounts receivable, the *allowance for bad debts* at the end of the period is usually determined by analyzing the accounts receivable at the end of the period to determine the probable amount of uncollectible accounts.[3] The analyzing process is covered in Chapter 17.

Let us assume the following facts concerning the M Company:

1. The fiscal year of the Company ends December 31.
2. Financial statements for the Company are prepared at the end of the fiscal year only.
3. The trial balance of December 31, 1960, reveals the following information in regard to sales and accounts receivable:

Accounts receivable	$15,000	
Allowance for bad debts		$ 180
Sales		92,000
Sales returns and allowances	2,000	

4. Experience indicates that approximately 1% of the net sales for the year will be uncollectible.
5. An analysis of accounts receivable at the end of the year indicates that the probable amount of uncollectible accounts is $1,000.

If the basis for estimating bad debts of the M Company is sales, the *bad debts expense* is computed as follows:

Sales	$92,000
Sales returns and allowances	2,000
Net sales	$90,000
1% of net sales = bad debts expense =	900

[3] The allowance for bad debts is sometimes computed as a percentage of accounts receivable at the end of the period.

The bad debts expense for the year is recorded by the following adjusting entry:

1960 Dec.	31	Bad debts expense		900.00	
		Allowance for bad debts			900.00

Bad debts expense in the amount of $900 will be deducted in the income statement for the year ended December 31, 1960. The balance of the Allowance for Bad Debts account, after the adjusting entry has been posted, is $1,080 ($180 + $900) and that amount will be deducted from the balance of the Accounts Receivable account in the balance sheet of December 31, 1960. The accounts concerned would appear on the completed worksheet of the M Company for the year ended December 31, 1960, as follows:

Account	Trial Balance		Adjustments		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Accounts receivable	15,000						15,000	
Allowance for bad debts		180		900				1,080
Sales		92,000				92,000		
Sales returns and allowances	2,000				2,000			
	XXX	XXX						
Bad debts expense			900		900			

If the basis for estimating bad debts of the M Company is accounts receivable, the *amount of the allowance for bad debts* is determined by an analysis of the accounts receivable. By the analysis, it was determined that the probable amount of uncollectible accounts is $1,000. The amount of the adjusting entry is computed as follows:

Estimated amount of uncollectible accounts	$1,000
Allowance for bad debts—Per trial balance	180
Increase needed in Allowance for Bad Debts account	$ 820

The Allowance for Bad Debts account is credited for $820 to increase the balance of the account to the estimated amount of uncollectible accounts ($1,000). The adjusting entry is shown below:

1960 Dec.	31	Bad debts expense		820.00	
		Allowance for bad debts			820.00

Bad debts expense in the amount of $820 will be deducted in the income statement for the year ended December 31, 1960. The balance of the Allowance for Bad Debts account, after the adjusting entry has been posted, is $1,000 ($180 + $820) and that amount will be deducted from the balance of the Accounts Receivable account in the balance sheet of December 31, 1960.

You will notice that the balance of the Allowance for Bad Debts account is a factor in the computation of the amount of the adjusting entry when the basis for estimating bad debts is accounts receivable. If the basis for estimating bad debts is sales, the balance of the allowance account is not a factor in the computation of the amount of the adjusting entry.

Regardless of the basis for estimating bad debts, the adjusting entry at the end of each fiscal period is a debit to Bad Debts Expense and a credit to Allowance for Bad Debts. Reversing entries are not applicable to adjusting entries for bad debts.

Effect of Bad Debts Adjustments on the Financial Statements

The adjusting entry for bad debts is a debit to an *expense* account and a credit to a *minus asset* account. As an example, the adjusting entry that was illustrated above in regard to bad debts of the M Company (sales basis) is reproduced below:

1960 Dec.	31	Bad debts expense		900.00	
		Allowance for bad debts			900.00

What is the effect of this adjustment on the balance sheet that is prepared as of December 31, 1960, and on the income statement that is prepared for the year ended December 31, 1960? To show the effect of the adjustment on the financial statements, let us assume that the ad-

justment is not made. The omission of the credit to Allowance for Bad Debts causes assets to be overstated by $900. The omission causes the balance of the *minus asset* account (the allowance account) to be understated by $900. In the balance sheet, the balance of the allowance account is subtracted from the balance of the Accounts Receivable account; therefore, the net amount shown for accounts receivable is overstated by $900. The omission of the debit to Bad Debts Expense causes expense to be understated by $900. This understatement of total expense causes the net income to be overstated by $900. An overstatement of net income for a year causes an overstatement of retained earnings at the end of the year. Thus, capital in the balance sheet is overstated by $900. The overstatement of capital in the balance sheet is offset by the overstatement of assets.

ASSETS = LIABILITIES + CAPITAL
(overstated $900) = (correct) + (overstated $900)

At the end of a fiscal period, the omission of the bad debts adjusting entry causes net income for the period to be overstated. The omission causes assets and capital at the end of the period to be overstated.

Recovery of a Bad Debt

Sometimes a customer's account that has been written off as a bad debt is subsequently collected. In such a case, the customer's account should show the facts for credit information purposes. It is customary to reverse, by a general journal entry, the entry that was made when the account was written off. The receipt of cash is recorded in the cash receipts journal in the same manner as other collections from customers in payment of account. Let us assume that Ed Lash, whose account in the amount of $700 was written off as a bad debt on June 30, pays the full amount on August 15. The following entries are made on August 15:

ENTRY IN THE GENERAL JOURNAL

1961 Aug.	15	Accounts receivable—Ed Lash		700.00	
		Allowance for bad debts			700.00
		To reverse write-off entry of June 30			

ENTRY IN THE CASH RECEIPTS JOURNAL

1961 Aug.	15	Cash		700.00	
		Accounts receivable—Ed Lash			700.00
		(In full of account)			

If Ed Lash had paid only $400 on August 15, the above general journal entry would be in the amount of $700 (as shown) if the account is expected to be collected in full. If further collections are improbable, the entry would be in the amount of $400. In either case, the entry in the cash receipts journal would be for the amount received—$400.

Complete Worksheet with Adjustments Columns

The need for various types of adjusting entries and the method of applying these entries to the trial balance have been explained and illustrated in regard to a number of separate adjusting entries. As each of the adjusting entries is determined, the accountant enters the debit and credit in the adjustments columns of the worksheet. Usually, the debit and credit for each adjusting entry are identified by a letter or a number. As previously illustrated, amounts in the trial balance are combined with amounts in the adjustments columns to determine the adjusted balances that are extended to the statement columns of the worksheet. These extensions are not made until all adjusting entries have been entered on the worksheet and each adjustments column has been totaled to prove the equality of the adjustments. The adjusting entries are recorded in the general journal, from the worksheet, after the completion of the worksheet.

Let us assume that the accountant for the J Company determines that adjusting entries are needed, at December 31, 1960, to record the following:

(a)	Bad debts expense—½ of 1% of net sales	$480
(b)	Accrued interest receivable on note—6% for 30 days	20
(c)	Expired insurance—per schedule	440
(d)	Depreciation of office equipment—per schedule	600
(e)	Depreciation of delivery equipment—per schedule	1,000
(f)	Commissions due sales agent—per schedule	450
(g)	Unearned rental income—4 months at $100 a month	400

An adjusting entry for each of the above items is recorded in the adjustments columns of the worksheet. Explanations, as shown above, will be written for the adjusting entries when they are recorded in the general journal. The explanations may be listed at the bottom of the worksheet at the time the adjusting entries are entered on the worksheet.

If the physical inventory method is in use, the amount of the ending inventory must also be entered on the worksheet. The worksheet may then be completed without additional information. The procedures involved in completing the worksheet have been previously explained. The completed worksheet of the J Company for the year ended December 31, 1960, appears as follows:

THE J COMPANY—WORKSHEET—FOR THE YEAR ENDED DECEMBER 31, 1960

Account	Trial Balance		Adjustments		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Cash	3,000						3,000	
Accounts receivable	20,000						20,000	
Allowance for bad debts		100		a 480				580
Notes receivable	4,000						4,000	
Inventory (January 1, 1960)	24,000				24,000			
Prepaid insurance	900			c 440			460	
Office equipment	6,000						6,000	
Allowance for depreciation—Office equipment		2,600		d 600				3,200
Delivery equipment	5,000						5,000	
Allowance for depreciation—Delivery equipment		2,000		e 1,000				3,000
Accounts payable		16,000						16,000
Capital stock		25,000						25,000
Retained earnings (January 1, 1960)		12,000						12,000
Sales		98,000				98,000		
Sales returns and allowances	2,000				2,000			
Purchases	66,000				66,000			
Purchases returns and allowances		1,000				1,000		
Salaries	15,500				15,500			
Advertising expense	2,100				2,100			

Commissions expense	1,500		f 450		1,950			
Delivery expense	2,000				2,000			
Rent expense	3,600				3,600			
Miscellaneous expenses	2,300				2,300			
Rental income		1,200	g 400			800		
	157,900	157,900						
Bad debts expense			a 480		480			
Accrued interest receivable			b 20				20	
Interest income				b 20		20		
Insurance expense			c 440		440			
Depreciation expense—Office equipment			d 600		600			
Depreciation expense—Delivery equipment			e 1,000		1,000			
Accrued commissions payable				f 450				450
Prepaid rental income				g 400				400
			3,390	3,390				
Inventory (December 31, 1960)						26,000	26,000	
					121,970	125,820	64,480	60,630
Net income					3,850			3,850
					125,820	125,820	64,480	64,480

Worksheet without Retained Earnings Columns The complete worksheet illustrated above does not have a pair of columns in which to accumulate separately the details of the statement of retained earnings. The beginning balance of the Retained Earnings account was extended directly to the balance sheet credit column. The amount of the net income was shown in the balance sheet credit column. The ending balance of retained earnings does not appear as a separate item on the worksheet. The ending balance of retained earnings, which appears as a separate item on the balance sheet, is determined by adding the net income of the year to the beginning balance of retained earnings. The statement of retained earnings, prepared from the illustrated worksheet, appears as follows:

THE J COMPANY
Statement of Retained Earnings
For the Year Ended December 31, 1960

Balance, January 1, 1960	$12,000.00
Net income for the year	3,850.00
Balance, December 31, 1960	$15,850.00

If dividends had been paid during the year by the J Company, the balance of the Dividends account on the worksheet would have been extended directly to the balance sheet debit column. The amount of the dividends would have been deducted in arriving at the ending balance of retained earnings. The use of a pair of separate columns on a worksheet for the details of the statement of retained earnings is optional. Usually, when such columns are omitted from the worksheet, the statement of retained earnings may be prepared from the balance sheet columns of the worksheet without difficulty.

The use of a pair of separate columns on a worksheet for the details of the statement of capital, for an individual enterprise or a partnership, is optional.

Determining the Adjusting Entries

During the fiscal period and at the end of the period, the accountant compiles memoranda and other data for use in preparing the adjusting entries. At the end of the fiscal period, he should carefully review each item in the trial balance to ascertain that he has compiled the data that are needed to prepare all of the adjusting entries. A review of the adjusting entries of the preceding period may aid the accountant in determining the adjustments for the current period. The appearance of

certain accounts in the trial balance is indicative of the need for adjusting entries. The following are examples:

Account	*Adjustment to Record*
Any depreciable fixed asset	Depreciation
Any prepaid expense	Consumed portion
Any prepaid income	Earned portion
Notes receivable	Interest income
Notes payable	Interest expense
Accounts receivable, or allowance for bad debts	Bad debts

In regard to many other accounts, however, a careful review of the account and other data may be necessary to determine if an adjusting entry is needed.

It may be necessary to prepare a detailed schedule in order to determine the amount of an adjusting entry. Two examples are cited below:

1. If a company has many interest-bearing notes payable at the close of a fiscal period, a schedule is prepared that shows the accrued interest on each note and the total. Information in regard to each note payable must be obtained in order to prepare this schedule. One adjusting entry is made to record the total accrued interest expense.

2. If a company has many insurance policies at the close of a fiscal period, a schedule is prepared that shows the amount of unexpired insurance on each policy and the total. Information in regard to each policy must be obtained in order to prepare this schedule. One adjusting entry is made to adjust the balance of the Prepaid Insurance account to this total.

Summary of Adjusting Entries

The adjusting entries may be summarized as follows:

SUMMARY OF ADJUSTING ENTRIES

Items	Adjusting Entry		Effect on Net Assets and Net Income	Reversing Entry?
	Debit	Credit		
Accrued expenses	Expense	Accrued expense payable	Decreases	Optional
Accrued incomes	Accrued income receivable	Income	Increases	Optional
Prepaid expenses:				
(1) Payment debited to prepaid expense (asset) account	Expense	Prepaid expense	Decreases	No
(2) Payment debited to expense account	Prepaid expense	Expense	Increases	Yes
Prepaid incomes:				
(1) Collection credited to prepaid income (liability) account	Prepaid income	Income	Increases	No
(2) Collection credited to income account	Income	Prepaid income	Decreases	Yes
Depreciation	Depreciation expense	Allowance for depreciation	Decreases	No
Bad debts	Bad debts expense	Allowance for bad debts	Decreases	No

Each of the above adjusting entries causes a change in net income and net assets (Assets – Liabilities = Net Assets). If the entry causes an increase in net income, it causes an increase in net assets of the same amount. If the entry causes a decrease in net income, it causes a decrease in net assets of the same amount.

Miscellaneous Adjustments

Sometimes, adjusting entries other than those summarized above are needed at the end of a fiscal period. An adjusting entry may be used to record unpaid bills for various items. The need for correcting entries involving the balances of various accounts may be discovered after the trial balance is prepared. In such a case, the corrections are recorded by adjusting entries.

QUESTIONS

1. What is an expenditure?
2. Criticize the following journal entry:

Dec. 31	Depreciation expense—Delivery equipment	xxx	
	Delivery equipment		xxx
	To record depreciation of delivery equipment		

3. Criticize the following journal entry:

Dec. 31	Depreciation expense—Land	xxx	
	Allowance for depreciation—Land		xxx
	To record depreciation of land		

4. Three typewriters were purchased by N Corporation on January 2, 1962, at a cost of $120 each. The typewriters were received on January 2, 1962, and they were in use for the entire year. Each typewriter was expected to have no salvage value at the end of its estimated life of five years. The straight-line method of depreciation is in use. How much depreciation expense should be recorded for each typewriter for the year 1962?
   (a) Typewriter A—Payment was made for this typewriter on January 2, 1962.
   (b) Typewriter B—The invoice for this typewriter gave credit terms as follows: Net, 30 days. The invoice was paid on February 1, 1962.
   (c) Typewriter C—A note payable was given to the vendor by N Corporation on January 2, 1962. The note was paid by N Corporation on its due date, January 2, 1963.
5. Failure to record the depreciation of fixed assets for a fiscal year will have what effect upon: (a) The net income reported for the year? (b) The assets shown in the balance sheet at the end of the year? (c) The liabilities shown in the balance sheet at the end of the year? (d) The capital shown in the balance sheet at the end of the year?
6. Are reversing entries applicable to adjusting entries for depreciation?
7. What are bad debts?
8. Why are bad debts recorded on an estimated basis?
9. Failure to record the adjusting entry for bad debts at the end of a fiscal year will have what effect upon: (a) The net income reported for the year? (b) The assets shown in the balance sheet at the end of the year? (c) The liabilities shown in the balance sheet at the end of the year? (d) The capital shown in the balance sheet at the end of the year?
10. When a certain account receivable is discovered to be uncollectible, why is it not written off by a debit to the Bad Debts account? What account is debited when an uncollectible account is written off?
11. Should the determination of the amount of the adjusting entry for bad debts at the end of a fiscal period be based on sales of the period or on the accounts receivable at the end of the period?
12. What journal entries are made when a debtor's account that has been written off as uncollectible is subsequently collected?
13. Can the accountant determine all of the adjusting entries that are needed at the end of a fiscal year by reviewing the trial balance?

PROBLEMS

Problem 10-1

(A) From the information given below concerning the fixed assets of Bod Company, prepare the adjusting entries to record depreciation for the year ended December 31, 1960.

Item	Cost	Date Acquired	Estimated Life
Building	$50,000	July 17, 1954	40 years
Office equipment	4,000	Aug. 1, 1954	10 years
Office equipment	2,000	Oct. 1, 1960	10 years

(B) The accountant for Bod Company failed to make the adjustments for depreciation for the year ended December 31, 1960. Indicate the amount of the understatement or overstatement, if any, of each of the following:
(a) Net income for the year ended December 31, 1960.
(b) Assets, December 31, 1960.
(c) Liabilities, December 31, 1960.
(d) Capital, December 31, 1960.

Problem 10-2

(A) The data below are shown as they appear in the trial balance of Amson Company as of December 31, 1960.

	Dr.	Cr.
Accounts receivable	18,000	
Allowance for bad debts		150
Sales		81,400
Sales returns and allowances	1,200	

(a) Prepare the adjusting entry for bad debts if it is to be based on sales. Experience indicates that approximately 1% of the Company's net sales will be uncollectible.
(b) Prepare the adjusting entry for bad debts if it is to be based on accounts receivable. Experience indicates that approximately 5% of accounts receivable at the end of the year will be uncollectible.

(B) The accountant for Amson Company failed to make the adjusting entry for bad debts for the year ended December 31, 1960. Indicate the amount of the understatement or overstatement, if any, of the items listed below (assume that the entry would have been based on net sales):
(a) Net income for the year ended December 31, 1960.
(b) Assets, December 31, 1960.
(c) Liabilities, December 31, 1960.
(d) Capital, December 31, 1960.

(C) The accountant for Amson Company failed to make the adjusting entry for bad debts for the year ended December 31, 1960. Indicate the amount of the understatement or overstatement, if any, of the items

listed below (assume that the entry would have been based on accounts receivable):

(a) Net income for the year ended December 31, 1960.
(b) Assets, December 31, 1960.
(c) Liabilities, December 31, 1960.
(d) Capital, December 31, 1960.

Problem 10-3

Prepare general journal entries to record the following transactions:

1960

June 30—The account of Joe Cord, a customer, was written off as uncollectible, $500.

Nov. 30—The account of Jim Bern, a customer, was written off as uncollectible, $400.

Dec. 31—The account of Al Black, a customer, was written off as uncollectible, $700.

1961

Feb. 28—Received a check for $500 from Joe Cord in payment of the account written off June 30, 1960.

Oct. 6—Received a check for $100 to apply on the account of Jim Bern. A letter received with the check indicates that further payments are highly unlikely.

1962

June 15—Received a check for $500 to apply on the account of Al Black. Black states that he will pay the balance of $200 on July 15.

Problem 10-4

Adjusting entries in regard to the items listed below were omitted by the accountant for the A Company, at the end of the fiscal year.

(a) Accrued salaries payable, $1,000.
(b) Depreciation of equipment, $1,600.
(c) Accrued interest receivable, $240.
(d) Bad debts, $420.
(e) Prepaid interest expense, $60. All interest payments have been recorded by debits to the Interest Expense account.
(f) Expired insurance, $900. All premium payments have been recorded by debits to the Prepaid Insurance account.
(g) Prepaid interest income, $96. All interest received has been recorded by credits to the Interest Income account.
(h) Accrued commissions payable, $700.
(i) Earned rental income, $1,200. All rent received has been recorded by credits to the Prepaid Rental Income account.

Required:

Using the form below, show the amount of the understatement or overstatement, if any, of assets, liabilities, capital, and net income that resulted from the omission of each adjusting entry and show the total understatement or overstatement of assets, liabilities, capital, and net income. Use a plus sign (+) to indicate an overstatement and a minus sign (−) to indicate an understatement. Prove that the net assets as of December 31, 1962 (the fiscal year involved) are misstated by the same amount as the net income for the year ended December 31, 1962.

Item	December 31, 1962			Net Income for the Year Ended December 31, 1962
	Assets	Liabilities	Capital	
(a)	$-0-	−$1,000	+$1,000	+$1,000
(b)				
Totals				

Problem 10-5

From the trial balance and other data given below, prepare the completed worksheet of Wholesome Candy Company. No retained earnings columns are to be used on the worksheet.

	Dr.	Cr.
Cash	2,200	
Accounts receivable	21,400	
Allowance for bad debts		120
Notes receivable	1,000	
Inventory (January 1, 1960)	17,400	
Prepaid insurance	900	
Land	2,000	
Office equipment	3,000	
Allowance for depreciation—Office equipment		750
Delivery equipment	8,200	
Allowance for depreciation—Delivery equipment		2,400
Prepaid rental income		1,200
Accounts payable		21,500
Capital stock		15,000
Retained earnings		5,000
Sales		107,000
Sales returns and allowances	1,840	
Purchases	71,400	
Purchases returns and allowances		1,600
Salaries	17,200	
Advertising expense	3,000	
Commissions expense	1,100	
Delivery expense	1,780	
Rent expense	1,800	
Miscellaneous expenses	350	
	154,570	154,570

Additional data:

(a) An analysis of accounts receivable indicates that the probable amount of uncollectible accounts is $600.

(b) The note receivable is dated November 13, 1960, and it bears interest at 6%.

(c) The amount of unexpired insurance at December 31, 1960, is $240.

(d) The office equipment was all acquired on the same date. It has an estimated life of 10 years.

(e) The delivery equipment consists of two station wagons. The estimated life of each is five years from the date of acquisition. One was acquired on January 2, 1957, at a cost of $4,000. The other was acquired on July 1, 1960, at a cost of $4,200.

(f) Land acquired in May, 1960, as a site for a building, is temporarily leased to Homer Kain. Mr. Kain paid the rent for one year in advance on June 1, 1960.
(g) Salaries have not been paid for the last half of December, $750.
(h) Commissions due sales agent, $300.
(i) The inventory of December 31, 1960, is $18,800.

All adjusting entries were properly recorded at December 31, 1959.

SUPPLEMENTARY PROBLEMS

Problem 10-6

(A) From the information given below concerning the fixed assets of Roband Company, prepare the adjusting entries to record depreciation for the year ended December 31, 1963. (Form 1)

Item	Cost	Date Acquired	Estimated Life
Office equipment	$1,200	June 18, 1959	10 years
Office equipment	600	April 1, 1961	10 years
Office equipment	900	April 1, 1963	10 years
Store equipment	4,500	June 20, 1959	10 years
Delivery truck	4,500	July 22, 1960	5 years

(B) The accountant for Roband Company failed to make the adjusting entries to record depreciation for the year ended December 31, 1963. Indicate the amount of the understatement or overstatement, if any, of each of the following:

(a) Net income for the year ended December 31, 1963.
(b) Assets, December 31, 1963.
(c) Liabilities, December 31, 1963.
(d) Capital, December 31, 1963. (Form 3)

Problem 10-7

Prepare general journal entries to record the following:

1961
Dec. 31—An allowance for bad debts in the amount of $1,000 was set up.

1962
July 31—The account of B. B. Scott, a customer, was written off as uncollectible, $100.
Oct. 31—The account of Elcorn, Inc., a customer, was written off as uncollectible, $350.
Dec. 31—The account of Halsan Company, a customer, was written off as uncollectible, $500.
Dec. 31—An aging of accounts receivable was made and it was decided that an allowance for bad debts of $1,200 was needed. The proper adjusting entry was made.

1963
June 30—The account of Ford Marsun, a customer, was written off as uncollectible, $385.

1963

Oct. 31—Received a check for $50 from B. B. Scott to apply on account. Scott states that he will pay the balance remaining, $50, within 30 days.

Nov. 30—Received a check for $50 from B. B. Scott in payment of account.

Nov. 30—The account of Porona Produce Company, a customer, was written off as uncollectible, $950.

Dec. 15—Received a check for $100 to apply on the account of Halsan Company. A letter received with the check indicates that further payments are very unlikely.

Dec. 31—An aging of accounts receivable was made and it was decided that an allowance for bad debts of $1,400 was needed. The proper adjusting entry was made. (Form 1)

Problem 10-8

At the end of the fiscal year, December 31, 1963, the omission of adjusting entries caused inaccuracies in the financial statements of Spirod Company. Financial statements for the company are prepared at the end of the fiscal year only. Adjusting entries should have been made in regard to the following items:

(a) Depreciation, $1,350.
(b) Bad debts, $440.
(c) Accrued commissions receivable, $165.
(d) Accrued commissions payable, $236.
(e) Prepaid interest expense, $78. All interest payments have been recorded by debits to the Interest Expense account.
(f) Prepaid interest income, $66. All interest received has been recorded by credits to the Interest Income account.
(g) Expired insurance, $840. All premium payments have been recorded by debits to the Prepaid Insurance account.
(h) Earned rental income, $900. All rent received has been recorded by credits to the Prepaid Rental Income account.

Required:

(A) Prepare a schedule showing the amount of the understatement or overstatement, if any, of assets, liabilities, and capital in the balance sheet of December 31, 1963, that resulted from the omission of each adjusting entry and show the total understatement or overstatement of assets, liabilities, and capital.

(B) Prepare a schedule showing the amount of the understatement or overstatement of net income for the year ended December 31, 1963, that resulted from the omission of each adjusting entry and show the total understatement or overstatement of net income. (Form 8)

Problem 10-9

Financial statements for Spireel Company are prepared at the end of the fiscal year only. All adjusting entries were properly recorded as of December 31, 1962. The trial balance of December 31, 1963, appears below:

	Dr.	Cr.
Cash	1,880	
Accounts receivable	23,240	
Allowance for bad debts		250
Inventory (January 1, 1963)	19,220	
Prepaid insurance	1,420	
Land	4,580	
Office equipment	2,400	
Allowance for depreciation—Office equipment		525
Delivery equipment	3,600	
Allowance for depreciation—Delivery equipment		1,575
Accounts payable		21,640
Notes payable		1,200
Capital stock		15,000
Retained earnings		6,330
Sales		115,400
Sales returns and allowances	1,140	
Purchases	75,560	
Purchases returns and allowances		960
Salaries	19,100	
Advertising expense	3,440	
Commissions expense	2,100	
Delivery expense	1,310	
Rent expense	1,800	
Supplies expense	1,080	
Miscellaneous expenses	1,870	
Rental income		1,080
Interest expense	220	
	163,960	163,960

Adjusting entries are required in regard to the following items:

(a) An analysis of accounts receivable indicates that the probable amount of uncollectible accounts is $700.
(b) The amount of unexpired insurance as of December 31, 1963, is $640.
(c) Land acquired in July, 1963, as a site for a building, is temporarily leased to Dolnar Company. Dolnar Company paid the rent for one year in advance on August 1, 1963.
(d) The estimated life of the office equipment is ten years. Straight line depreciation is in use. Office equipment having a cost of $2,100 was acquired on July 1, 1960. Office equipment having a cost of $300 was acquired on March 1, 1963.
(e) The delivery equipment consists of one panel truck. Depreciation is being taken by the straight-line method over a life of four years.
(f) There are two notes payable in the amount of $600 each. One is dated December 1, 1963, and the other is dated November 1, 1963. The interest rate on each note is 6%.
(g) Commissions in the amount of $260 are owed to a sales agent for December sales.

The inventory of December 31, 1963, is $20,860.

Required:

Prepare the completed worksheet of Spireel Company for the year ended December 31, 1963. No retained earnings columns are to be used on the worksheet. (Form 18)

11

Classified Financial Statements

Importance of Financial Statements

The primary aims of management are to operate the business at a satisfactory profit and to maintain the company in a sound financial position. Usually, these goals can be achieved only by carefully planning future operations and by maintaining effective operating controls. The current financial statements reveal the financial condition of the business and the results of operations for the most recent accounting period. Future plans and operating policies are based on the current financial statements and those of previous periods. The financial statements of other businesses may be helpful in formulating plans and policies. Financial statements are used primarily as an aid in efficient managerial control.

Financial statements are important and useful not only to management but also to stockholders, investors, creditors, credit agencies, governmental agencies, investment firms, and others. Accordingly, the statements should be well arranged and carefully prepared so that they may be readily reviewed and analyzed.

Classified Balance Sheet

A classified balance sheet is one in which both the assets and the liabilities are divided into significant groups. The classifications used depend upon the nature of the business and the types of balance sheet

items that are to appear in the statement. There is not complete agreement among accountants as to the best way to classify some balance sheet items. The categories that appear in the classified balance sheet that appears on page 227 are common ones.

Current Assets Current assets are defined as "cash and other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business."[1] If there is more than one normal operating cycle[2] within one year, one year is the time period used to determine the current assets. Current assets include:

1. Cash.
2. Temporary investments.
3. Accounts receivable.
4. Notes receivable.
5. Accrued receivables.
6. Inventories.
7. Short-term prepaid expenses.

The current assets are usually listed in the order shown here. Notes receivable may be listed before accounts receivable.

Other Assets Any assets that are not properly classified in one of the other categories of assets may be classified in the "other assets" section. As shown in the illustrated balance sheet above, land not used in operations and long-term investments are examples of other assets. If the amounts of long-term investments are significant, they may be shown as a separate category of assets in the balance sheet.

Fixed Assets Items of property, plant, and equipment of a relatively permanent nature that are used in the operations of the business are classified as fixed assets. Usually, fixed assets, with the exception of land, are worn out or consumed in the operations of the business. If a fixed asset is no longer useful to the business, however, it will usually be sold. Items of property, plant, and equipment are usually listed according to their estimated useful life. In some cases, the order of listing is from the most permanent items to the least permanent items. In other cases, the order of listing is from the least permanent items to the most permanent items.

Additional Asset Categories The classification of assets in the balance sheet may include categories for *intangible assets* and *deferred charges.* If these categories are used, they appear after the fixed assets in the balance sheet. If a separate section is shown for long-term investments, it usually appears immediately after the current assets. Long-term in-

[1] *Accounting Research Bulletin No. 43,* "Restatement and Revision of Accounting Research Bulletins," *American Institute of Certified Public Accountants,* New York, 1953, p. 20.

[2] An operating cycle is the period required to complete the following conversions: cash into inventories, those inventories into receivables, and those receivables into cash.

vestments, temporary investments, intangible assets, and deferred charges are subjects that are covered in Chapter 19.

Current Liabilities Current liabilities are defined as "obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities." [3] The time period used to determine the current liabilities coincides with the time period used to determine current assets. Thus, the time period used to determine the current liabilities is one operating cycle or one year, whichever is longer. Short-term prepaid revenues are current liabilities.

The order of listing current liabilities is not uniform. Accounts payable and notes payable are usually listed before the accruals, however, and the short-term prepaid revenues are usually listed last.

Income taxes withheld, FICA taxes payable, and unemployment taxes payable are current liability items that have not been previously shown in this text. Such liabilities usually appear in a balance sheet. Income taxes withheld, FICA taxes, and unemployment taxes are subjects that are covered in Chapter 20.

Long-Term Liabilities Long-term liabilities are liabilities that are not due and payable within one year or within the normal operating cycle of the business if it is longer than one year. They are debts which are not classifiable as current liabilities. Mortgages payable and bonds payable are examples of long-term liabilities. Notes payable that are not due and payable within one year will usually be classified as long-term liabilities. When an obligation is payable in instalments, the portion that is due within one year should be shown as a current liability and the remainder should be shown as a long-term liability.

Additional Liability Category The classification of liabilities in the balance sheet may include a category for *deferred credits.* Deferred credits is a subject that is covered in Chapter 20.

Capital Capital in the balance sheet of Winner Company consists of capital stock and retained earnings. The equity of the owners of a corporate business is usually shown in the balance sheet under the caption "Stockholders' Equity." *Net worth* and *proprietorship* as well as *capital* are captions that may be used for the owners' equity section of the balance sheet regardless of the form of the business unit.

Balance Sheet Arrangements

The balance sheet of Winner Company that has been illustrated in this chapter was prepared in the account form. The report form would show the same sections and the same totals but the assets would appear

[3] *Accounting Research Bulletin No. 43,* p. 21.

WINNER COMPANY

Balance Sheet

As of December 31, 1960

Exhibit A

ASSETS				LIABILITIES AND CAPITAL		
Current Assets				*Current Liabilities*		
Cash		$ 7,260		Accounts payable	$19,860	
Temporary investments		6,000		Notes payable	1,200	
Accounts receivable	$21,400			Accrued interest payable	30	
Allowance for bad debts	900	20,500		Accrued commissions payable	1,100	
				Income taxes withheld	148	
Notes receivable		4,000		FICA taxes payable	70	
Accrued interest receivable		56		Unemployment taxes payable	72	
Inventory		20,360		Federal income taxes payable	2,760	
Prepaid insurance		484		Prepaid rental income	900	
Prepaid rent expense		1,200				
Store and office supplies		540		Total Current Liabilities		$26,140
Total Current Assets			$60,400	*Long-Term Liabilities*		
Other Assets				Mortgage payable, due 1969	$15,000	
Land not used in operations		$ 6,000		Note payable, due 1962	1,000	
Long-term investments		7,000				
				Total Long-Term Liabilities		16,000
Total Other Assets			13,000	*Capital*		
Fixed Assets				Capital stock	$30,000	
Land		$ 6,200		Retained earnings—per Exhibit B	27,160	
Building	$30,000					
Allowance for depreciation	16,500	13,500		Total Capital		57,160
Office equipment	$ 4,000					
Allowance for depreciation	2,400	1,600				
Store equipment	$ 7,000					
Allowance for depreciation	4,400	2,600				
Delivery equipment	$ 5,000					
Allowance for depreciation	3,000	2,000				
Total Fixed Assets			25,900			
TOTAL ASSETS			$99,300	TOTAL LIABILITIES AND CAPITAL		$99,300

above the liabilities and capital. The balance sheet of Winner Company follows the conventional arrangement. In a modified arrangement that has appeared in recent years, the current liabilities are deducted from the current assets to show the net current assets or *working capital.* The long-term liabilities may also be deducted from the assets to show *net assets.* To show these modifications, the balance sheet of Winner Company is presented again. The detailed items under each section of assets and under each section of liabilities are the same under the modified arrangement as they are under the conventional arrangement. The detailed items have been omitted in the following statement for the sake of brevity.

WINNER COMPANY Balance Sheet As of December 31, 1960	Exhibit A
NET ASSETS	
Total Current Assets	$60,400
Less Total Current Liabilities	26,140
Net Current Assets	$34,260
Total Other Assets	13,000
Total Fixed Assets	25,900
Total Assets Less Current Liabilities	$73,160
Less Total Long-Term Liabilities	16,000
Net Assets	$57,160
INVESTMENT OF STOCKHOLDERS	
Capital stock	$30,000
Retained earnings—Per Exhibit B	27,160
Total Investment of Stockholders	$57,160

Classified Income Statement

Management needs detailed information in regard to the revenues earned and the expenses incurred by the company. A separate income account may be kept for each kind of revenue. Sundry minor items of revenue may be recorded in an account entitled "Miscellaneous Income." A separate expense account may be kept for each kind of expense. Sundry minor items of expense may be recorded in an account entitled "Miscellaneous Expenses." There may be several revenue accounts and there are usually many expense accounts. The revenue items and the expense items are usually classified in significant categories in the income statement. The categories that appear in the classified income statement of Winner Company are common ones.

WINNER COMPANY — **Exhibit C**

Income Statement

For the Year Ended December 31, 1960

Net Sales			
Sales		$152,400	
Sales returns and allowances	$ 1,260		
Sales discounts	980	2,240	
Net Sales			$150,160
Cost of Goods Sold			
Inventory, January 1, 1960		$ 17,140	
Purchases	$99,700		
Purchases returns and allowances	$1,300		
Purchases discounts	820	2,120	
Net purchases	$97,580		
Freight-in	1,230		
Net cost of purchases		98,810	
Cost of goods available for sale		$115,950	
Inventory, December 31, 1960		20,360	
Cost of Goods Sold			95,590
Gross Profit on Sales			$ 54,570
Operating Expenses			
Selling Expenses:			
Sales salaries	$16,400		
Sales commissions	4,500		
Advertising	3,300		
Depreciation expense—Store building	750		
Depreciation expense—Store equipment	700		
Depreciation expense—Delivery equipment	1,000		
Freight-out and delivery expense	1,140		
Insurance expense—Selling	580		
Payroll taxes—Selling	600		
Store supplies used	630		
Miscellaneous selling expenses	1,780	$ 31,380	
General Expenses:			
Office salaries	$ 8,400		
Bad debts expense	720		
Depreciation expense—Office equipment	400		
Insurance expense—General	190		
Office supplies used	220		
Payroll taxes—General	390		
Other taxes	810		
Rent expense—Office space	2,400		
Miscellaneous general expenses	1,560	15,090	
Total Operating Expenses			46,470
Net Income from Operations			$ 8,100
Other Revenues			
Rental income from land	$ 1,200		
Interest income	590	$ 1,790	
Other Expense			
Interest expense		690	1,100
Net Income before Federal Income Taxes			$ 9,200
Federal income taxes			2,760
Net Income			$ 6,440

Net Sales The net sales are shown in the first section of the income statement for a merchandising enterprise. Customarily, revenues that are derived from the principal operations of the business are shown first in the income statement. This section of the statement is sometimes referred to as the "revenue" or "income" section. Sales discounts are cash discounts granted to customers for payment within a specified time (see Chapter 12).

Cost of Goods Sold This category of the income statement shows all items that are used in determining the cost of the merchandise that was sold. This section is sometimes referred to as the "cost of sales" section. Purchases discounts are cash discounts granted to us by creditors for payment within a specified time (see Chapter 12). The freight that is paid on merchandise that is purchased is regarded as part of the cost of the merchandise. The difference between net sales and the cost of goods sold is called *gross profit on sales.*

Operating Expenses Operating expenses are those expenses incurred in conducting the regular principal operations of the business. Operating expenses may be shown in a single group or they may be divided into several groups. In a small service-type business, they are commonly shown in a single group. In many cases, operating expenses are divided into two groups: (1) selling expenses, and (2) general (or administrative) expenses.

Selling expenses are those incurred in selling and marketing the products and/or services. Delivery costs are usually included in this category. The order of listing selling expenses is not uniform. They are sometimes listed in order of size, the larger items appearing first. Miscellaneous selling expenses are usually listed last. In the income statement of Winner Company, the sales salaries and sales commissions were listed first and the miscellaneous selling expenses were listed last; the remaining items were listed in alphabetical order.

General expenses are those incurred in the general administration of the business. The order of listing general expenses is not uniform. Like selling expenses, they are sometimes listed in order of size, the larger items appearing first. Miscellaneous general expenses, like miscellaneous selling expenses, are usually listed last. In the income statement of Winner Company, the office salaries were listed first and the miscellaneous general expenses were listed last; the remaining items were listed in alphabetical order.

In the income statement of Winner Company, *Payroll taxes–Selling* is listed as a selling expense and *Payroll taxes–General* is listed as a general expense. Payroll taxes expense should be classified in accordance with the classification of the salaries or wages to which the taxes apply. The subject of payroll taxes is covered in the chapter entitled

"Current Liabilities." Notice that a portion of the insurance expense that was incurred during the year is a selling expense and that the remainder is a general expense. Notice that the depreciation expense on the store building is a selling expense. It is not unusual to find that the depreciation expense on a building is prorated between selling expense and general expense because the building is used for both selling and general administrative purposes. Rent expense may be prorated for similar reasons.

The net income from operations is determined by deducting the total operating expenses from the gross profit on sales.

Other Revenues Incidental revenues and other non-operating revenues may be shown in the income statement under the caption of "Other Revenues." Interest income, dividends received, and rental income are common examples of items classified as *other revenues.* Rental income should be shown at the net amount after deducting the expenses incurred in earning the rent, unless these expenses are classified as *other expenses.* Non-recurring items, such as gain on the sale of fixed assets and gain on the sale of securities, may be classified as other revenues.

Other Expenses Incidental expenses and other non-operating expenses and losses may be shown in the income statement under the caption of "Other Expenses." Interest expense is shown under this heading. Non-recurring losses, such as loss on the sale of fixed assets and loss on the sale of securities, may be classified as *other expenses.*

Other revenues and other expenses appear after the net income from operations. In the income statement of Winner Company, the excess of other revenues over other expense was added to the net income from operations. If the other expenses exceed the other revenues, the other expenses may be listed first and the excess is deducted from the net income from operations.

Federal Income Taxes Of the three common forms of business organization, the sole proprietorship, the partnership, and the corporation, only the corporation is subject to Federal income taxes as an entity. The owner of the sole proprietorship is subject to Federal income taxes on the net income of the business. A partner is subject to Federal income taxes on his share of the net income of the partnership. The income statement of a corporation usually shows a deduction for Federal income taxes, whereas the income statement of an individual enterprise or a partnership does not show a deduction for Federal income taxes. The balance sheet of a corporation usually shows a current liability for Federal income taxes payable. The balance sheet of an individual enterprise or a partnership does not show a liability for Federal income taxes. A footnote may be used on the financial statements of an individual

enterprise or a partnership to indicate the fact that the net income is taxable to the owner or to the partners.

Entry to Record Federal Income Taxes The amount of the Federal income taxes cannot be calculated until the net income (before Federal income taxes) has been determined. When the amount of Federal income taxes for the year has been determined, an entry *could* be made as follows:

1960 Dec.	31	Federal income taxes		2,760.00	
		Federal income taxes payable			2,760.00
		To record Federal income taxes for the year			

Since it is an income statement account, the Federal Income Taxes account *would* be closed by the following entry:

1960 Dec.	31	Income summary		2,760.00	
		Federal income taxes			2,760.00
		To close the Federal Income Taxes account			

After the entries that appear above have been posted, the Federal Income Taxes account appears as follows:

FEDERAL INCOME TAXES

1960 Dec. 31	2,760	1960 Dec. 31	2,760

It is unnecessary to set up a Federal Income Taxes account. The entry to record the Federal income taxes is shown below:

1960 Dec.	31	Income summary		2,760.00	
		Federal income taxes payable			2,760.00
		To record Federal income taxes for the year			

This entry is made as one of the closing entries at the end of the year.

Federal Income Taxes on the Worksheet A portion of the worksheet of Winner Company is illustrated below to show the recording of Federal income taxes on the worksheet.

Accounts	Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.
	167,470	176,670	128,000	118,800
Federal income taxes	2,760			2,760
Net income	6,440			6,440
	176,670	176,670	128,000	128,000

As shown below, the net income before Federal income taxes for Winner Company was computed from the column totals that appear just above the Federal income taxes line on the worksheet:

Income statement columns:		Balance sheet columns:	
Credits	$176,670	Debits	$128,000
Debits	167,470	Credits	118,800
	$ 9,200		$ 9,200

If the net income before Federal income taxes is subject to tax at the rate of 30%, the Federal income tax is $2,760. For various reasons, the amount of net income per books (before Federal income taxes) may differ from the amount of taxable income.

The balance sheet column totals that appear on the worksheet of Winner Company ($128,000) are not the same as the totals that appear on the balance sheet ($99,300). Such totals will seldom be in agreement because some items that appear as credits in the balance sheet columns of the worksheet are deducted from debit items in the statement (examples: allowances for depreciation), and some items that appear as debits in the balance sheet columns of the worksheet are deducted from credit items in the balance sheet (example: dividends).

Corporation Closing Entries

Except for data in regard to dividends, all information that is needed to prepare the closing entries for a business may be found in the income statement or in the income statement columns of the worksheet. The books of Winner Company for the year ended December 31, 1960, may be closed by the following entries.

(8)

1960					
Dec.	31	Income summary		17,140	
		Inventory			17,140
		To close the beginning inventory			
	31	Income summary		98,810	
		Purchases returns and allowances		1,300	
		Purchases discounts		820	
		Purchases			99,700
		Freight-in			1,230
		To close net cost of purchases			
	31	Inventory		20,360	
		Income summary			20,360
		To set up the ending inventory			
	31	Sales		152,400	
		Sales returns and allowances			1,260
		Sales discounts			980
		Income summary			150,160
		To close net sales			
	31	Income summary		31,380	
		Sales salaries			16,400
		Sales commissions			4,500
		Advertising			3,300
		Depreciation expense—Store building			750
		Depreciation expense—Store equipment			700
		Depreciation expense—Delivery equipment			1,000
		Freight-out and delivery expense			1,140
		Insurance expense—Selling			580
		Payroll taxes—Selling			600
		Store supplies used			630
		Miscellaneous selling expenses			1,780
		To close selling expenses			
	31	Income summary		15,090	
		Office salaries			8,400
		Bad debts expense			720
		Depreciation expense—Office equipment			400
		Insurance expense—General			190
		Office supplies used			220
		Payroll taxes—General			390
		Other taxes			810
		Rent expense—Office space			2,400
		Miscellaneous general expenses			1,560
		To close general expenses			
	31	Rental income from land		1,200	
		Interest income		590	
		Income summary			1,790
		To close other revenues			
	31	Income summary		690	
		Interest expense			690
		To close other expense			

(9)

1960					
Dec.	31	Income summary		2,760	
		Federal income taxes payable			2,760
		To record Federal income taxes for the year			
	31	Income summary		6,440	
		Retained earnings			6,440
		To transfer the net income to Retained Earnings			
	31	Retained earnings		1,500	
		Dividends			1,500
		To close the Dividends account			

After the closing entries have been posted, the Income Summary account of Winner Company appears as shown on page 236.

The cost of goods sold accounts were closed before the net sales accounts. Otherwise, the order of closing was the same as the order in which the accounts appear in the income statement. The cost of goods available for sale and the cost of goods sold appear as balances in the Income Summary account. If the net sales accounts are closed first, these two balances will not appear in the Income Summary account. The net sales accounts are sometimes closed first and other variations in closing entries are not uncommon. It is desirable that the order of closing follow closely the order in which the accounts appear in the income statement. The parenthetical identifications of balances appearing at the right of the Income Summary account on page 236 are not shown in the ledger.

INCOME SUMMARY

				Dr.	Cr.	Balance	
1960							
Dec.	31	Beginning inventory	J8	17,140			
	31	Net cost of purchases	J8	98,810		115,950 Dr.	(Cost of goods available for sale)
	31	Ending inventory	J8		20,360	95,590 Dr.	(Cost of goods sold)
	31	Net sales	J8		150,160	54,570	(Gross profit on sales)
	31	Selling expenses	J8	31,380		23,190	
	31	General expenses	J8	15,090		8,100	(Net income from operations)
	31	Other revenues	J8		1,790	9,890	
	31	Other expense	J8	690		9,200	(Net income before Federal income taxes)
	31	Federal income taxes	J9	2,760		6,440	(Net income)
	31	Net income	J9	6,440		–0–	

Statement of Income and Retained Earnings

The statement of retained earnings of Winner Company for the year ended December 31, 1960, is shown below.

WINNER COMPANY — Exhibit B
Statement of Retained Earnings
For the Year Ended December 31, 1960

Balance, January 1, 1960	$22,220
Net income—Per Exhibit C	6,440
Total	$28,660
Dividends paid	1,500
Balance, December 31, 1960	$27,160

The income statement and the statement of retained earnings are often combined and presented as one statement. A combined statement of income and retained earnings for Winner Company for the year ended December 31, 1960, is presented below.

WINNER COMPANY — Exhibit B
Statement of Income and Retained Earnings
For the Year Ended December 31, 1960

Sales		$152,400
Sales returns and allowances	$ 1,260	
Sales discounts	980	2,240
Net Sales		$150,160
Cost of Goods Sold—Per Schedule A		95,590
Gross Profit on Sales		$ 54,570
Operating Expenses—Per Schedule B:		
Selling Expenses	$31,380	
General Expenses	15,090	46,470
Net Income from Operations		$ 8,100
Other Revenues:		
Rental income from land	$ 1,200	
Interest income	590	1,790
		$ 9,890
Other Expense:		
Interest expense		690
Net Income before Federal Income Taxes		$ 9,200
Federal income taxes		2,760
Net Income		$ 6,440
Retained Earnings, January 1, 1960		22,220
Total		$ 28,660
Dividends paid		1,500
Retained Earnings, December 31, 1960		$ 27,160

Condensed Statements

In the above statement, notice that only the totals appear for cost of goods sold, selling expenses, and general expenses. The details of each of these categories are shown in supporting schedules. Such supporting schedules may be used in regard to the income statement as well as the combined income and retained earnings statement. Sections of a balance sheet may be shown in supporting schedules with only the totals of the sections appearing in the statement itself. It is not unusual for a financial statement to show only totals in regard to some sections of the statement. Such a statement is called a *condensed statement.* Sometimes only the total appears for each section of a statement. Exhibit letters and schedule letters or numbers are used mainly for cross-referencing purposes.

Supporting Schedules The schedules that support the statement of income and retained earnings of Winner Company are shown below.

WINNER COMPANY — Schedule A
Cost of Goods Sold
For the Year Ended December 31, 1960

Inventory, January 1, 1960			$ 17,140
Purchases		$99,700	
Purchases returns and allowances	$1,300		
Purchases discounts	820	2,120	
Net purchases		$97,580	
Freight-in		1,230	
Net cost of purchases			98,810
Cost of goods available for sale			$115,950
Inventory, December 31, 1960			20,360
Cost of Goods Sold			$ 95,590

WINNER COMPANY — Schedule B
Selling and General Expenses
For the Year Ended December 31, 1960

Selling Expenses	
Sales salaries	$16,400
Sales commissions	4,500
Advertising	3,300
Depreciation expense—Store building	750
Depreciation expense—Store equipment	700
Depreciation expense—Delivery equipment	1,000
Freight-out and delivery expense	1,140
Insurance expense—Selling	580
Payroll taxes—Selling	600
Store supplies used	630
Miscellaneous selling expenses	1,780
Total Selling Expenses	$31,380

General Expenses:	
Office salaries	$ 8,400
Bad debts expense	720
Depreciation expense—Office equipment	400
Insurance expense—General	190
Office supplies used	220
Payroll taxes—General	390
Other taxes	810
Rent expense—Office space	2,400
Miscellaneous general expenses	1,560
Total General Expenses	$15,090

Chart of Accounts

Accounts should be maintained in a ledger in a functional order. It was previously stated that accounts receivable and accounts payable subsidiary ledger accounts are usually kept in alphabetical order. The order of accounts in the general ledger should follow closely the order in which the items are presented in the financial statements. A listing of accounts in their ledger arrangement is called a *chart of accounts.* If there are many accounts, it is generally desirable to assign a coding number to each account (letters are sometimes used in conjunction with numbers). The accounts are usually kept in the general ledger in numerical order. The numbers assigned indicate classifications and subclassifications of accounts. Numbers are assigned in such a manner that a new account may be added and assigned a proper number without disrupting the numerical order of the system.

Simple account numbers were used in some of the illustrations in previous chapters. The use of these numbers in the journals to indicate the fact that items have been posted was illustrated.

A chart of accounts with coding numbers is shown in Chapter 26.

QUESTIONS

1. Define the following terms: (a) Current assets. (b) Fixed assets.
2. Generally, current assets include what three kinds of assets?
3. Define the following terms: (a) Current liabilities. (b) Long-term liabilities.
4. The balance sheet of ALC Corporation is divided into categories having the following captions: Current Assets, Other Assets, Fixed Assets, Current Liabilities, Long-term Liabilities, and Capital. What is the proper category for each of the following items?
   (a) Federal income taxes payable.
   (b) Allowance for depreciation—Office equipment.
   (c) Land held as investment property.
   (d) Allowance for bad debts.

(e) Note payable, due in five years.
(f) Note receivable, due in five years.
(g) Prepaid insurance.
(h) Retained earnings.

5. Define the following terms: (a) Net current assets. (b) Working capital.
6. What captions may be used for the owners' equity section of the balance sheet regardless of the form of the business unit?
7. The income statement of ALC Corporation is divided into categories having the following captions: Net Sales, Cost of Goods Sold, Selling Expenses, General Expenses, Other Revenues, and Other Expenses. What is the proper category for each of the following items?
   (a) Freight-out.
   (b) Freight-in.
   (c) Interest expense.
   (d) Advertising.
   (e) Gain on sale of securities.
   (f) Depreciation expense—Office equipment.
   (g) Depreciation expense—Store equipment.
   (h) Sales returns and allowances.
   (i) Purchases returns and allowances.
8. Explain why the income statement of an individual enterprise or of a partnership does not show a deduction for Federal income taxes.
9. May the amount of net income per books (before Federal income taxes) differ from the amount of income that is subject to Federal income taxes?
10. Distinguish between selling expenses and general expenses.

PROBLEMS

Problem 11-1

The items that are listed below appear in the balance sheet columns of the worksheet of Space Company for the year ended December 31, 1960. The items are listed in order of size rather than in the order in which they appear on the worksheet.

Building	$60,000
Capital stock	50,000
Retained earnings (January 1, 1960)	48,670
Accounts receivable	45,400
Inventory	37,400
Accounts payable	36,600
Allowance for depreciation—Building	28,800
Bonds payable	20,000
Store equipment	15,000
Land	12,000
Cash	10,300
Office equipment	10,000
Allowance for depreciation—Store equipment	9,600
Long-term investments	9,000
Notes receivable	7,000
Temporary investments	7,000
Notes receivable discounted	5,000
Land not used in operations	4,000
Allowance for depreciation—Office equipment	4,000
Federal income taxes payable	3,360
Notes payable	3,000

Dividends paid	$3,000
Accrued salaries payable	2,400
Prepaid rental income	1,800
Prepaid insurance	1,520
Allowance for bad debts	1,500
Employee note receivable (due 1962)	1,000
Store supplies	800
Income taxes withheld	410
Unemployment taxes payable	220
FICA taxes payable	210
Accrued interest payable	40
Accrued interest receivable	30
Net income	?

Required:

(A) Prepare a classified balance sheet.

(B) Prepare a statement of retained earnings.

Problem 11-2

The items that are listed below appear in the income statement columns of the worksheet of Space Company for the year ended December 31, 1960. The items are listed in order of size rather than in the order in which they appear on the worksheet.

Sales	$270,400
Purchases	182,000
Inventory (December 31, 1960)	37,400
Inventory (January 1, 1960)	30,530
Sales salaries	27,400
Office salaries	16,500
Sales commissions	7,000
Advertising	6,200
Delivery expenses	3,840
Federal income taxes	3,360
Miscellaneous selling expenses	3,170
Sales returns and allowances	2,800
Sales discounts	2,510
Rent expense—General	2,400
Freight-in	2,140
Purchases returns and allowances	2,120
Miscellaneous general expenses	2,020
Property taxes—Selling	1,850
Store supplies used	1,600
Purchases discounts	1,430
Insurance expense—Selling	1,410
Depreciation expense—Store equipment	1,250
Depreciation expense—Store building	1,200
Rental income	1,200
Bad debts expense	1,200
Payroll taxes—Selling	1,080
Depreciation expense—Office equipment	1,000
Interest expense	960
Freight-out	800
Interest income	780
Payroll taxes—General	720
Insurance expense—General	450
Property taxes—General	250
Gain on sale of securities	150
Net income	?

Required:

(A) Prepare a classified income statement. List the selling expenses, with the exception of miscellaneous selling expenses, in order of size. List

the general expenses, with the exception of miscellaneous general expenses, in order of size.

(B) Prepare the general journal entries to close the books. The Dividends Paid account has a debit balance of $3,000.

SUPPLEMENTARY PROBLEMS

Problem 11-3

The items that are listed below appear in the balance sheet columns of the worksheet of Divar Company for the year ended December 31, 1963. The items are listed in alphabetical order rather than in the order in which they appear on the worksheet.

Accounts payable	$44,014
Accounts receivable	52,140
Accrued interest payable	100
Accrued interest receivable	40
Accrued salaries payable	2,100
Allowance for bad debts	1,750
Allowance for depreciation—Building	35,500
Allowance for depreciation—Office equipment	5,400
Allowance for depreciation—Store equipment	8,250
Bonds payable	30,000
Building	75,000
Capital stock	50,000
Cash	9,420
Dividends paid	3,000
Employee note receivable (due 1965)	1,200
Federal income taxes payable	4,860
FICA taxes payable	244
Income taxes withheld	617
Inventory	41,205
Land	12,000
Land not used in operations	4,800
Long-term investments	9,000
Net income	?
Notes payable	4,000
Notes receivable	7,500
Notes receivable discounted	4,500
Office equipment	12,000
Prepaid insurance	1,740
Prepaid rental income	1,250
Retained earnings	51,300
Store equipment	18,000
Store supplies	1,250
Temporary investments	7,200
Unemployment taxes payable	270

Required:

(A) Prepare a classified balance sheet.

(B) Prepare a statement of retained earnings.

(Forms 12, 3)

Problem 11-4

The items that are listed below appear in the income statement columns of the worksheet of Divar Company for the year ended December 31, 1963.

The items are listed in alphabetical order rather than in the order in which they appear on the worksheet.

Advertising	$ 7,330
Bad debts expense	1,500
Delivery expenses	4,580
Depreciation expense—Office equipment	1,200
Depreciation expense—Store building	1,875
Depreciation expense—Store equipment	1,500
Federal income taxes	4,860
Freight-in	3,132
Freight-out	1,120
Insurance expense—General	1,020
Insurance expense—Selling	2,120
Interest expense	1,360
Interest income	708
Inventory (January 1, 1963)	45,182
Inventory (December 31, 1963)	41,205
Loss on sale of securities	120
Miscellaneous general expenses	2,080
Miscellaneous selling expenses	3,860
Net income	?
Office salaries	18,900
Office supplies expense	865
Payroll taxes—General	804
Payroll taxes—Selling	1,232
Property taxes—General	325
Property taxes—Selling	3,800
Purchases	259,840
Purchases discounts	1,980
Purchases returns and allowances	1,720
Rent expense—General	3,000
Rental income	1,500
Sales	384,766
Sales commissions	9,600
Sales discounts	3,120
Sales returns and allowances	2,740
Sales salaries	31,300
Store supplies expense	2,174

Required:

(A) Prepare a classified income statement. List the selling expenses, with the exception of miscellaneous selling expenses, in order of size. List the general expenses, with the exception of miscellaneous general expenses, in order of size.

(B) Prepare the general journal entries to close the books. The Dividends Paid account has a debit balance of $3,000. (Forms, 14, 1)

12

Sales and Purchases Routines

Business Papers

Transactions are recorded in the journals from the information shown on business papers. The business papers—such as sales invoices, purchases invoices, credit memoranda, debit memoranda, notes, checks, remittance advices, and receipts—are retained in the files in support of the entries in the journals. Some of these business papers are prepared within the organization and some are received from parties with whom the company does business. Business papers are usually carefully designed printed forms. Many of these forms are serially prenumbered so that every form may be accounted for. Within an organization, systematic business routines are necessary to assure the accuracy and completeness of the information that is entered in the accounting records. Business papers other than those that are the bases for entries in the journals are frequently needed to record the various stages of a transaction as the stages occur. In a very small company, the manager may be able to control the business procedures with few business papers. In a large company, management must delegate many of their duties to various subordinates and many documents are used to coordinate and control the business routines. The various business papers serve as a basis for the systematic business routines that are used to assure accuracy of the accounting data and clerical efficiency.

Internal Accounting Control

Written instructions should be given to all persons who take part in the business routines or any other phase of the accounting activity. Responsibility for each action should be established. The accounting system should be organized in such a manner that the occurrence of errors is minimized. The work of the various employees should be divided and interrelated in such a manner that: (1) the errors that do occur are likely to be detected, and (2) fraud cannot be concealed without collusion. Wherever possible, the results of one type of action should be verified by another separate and independent action.

The systematic internal business routines and other methods and measures adopted by management to safeguard the assets and to check the accuracy and reliability of the accounting data may be referred to as the system of *internal accounting control.* Internal accounting control is a major part of the over-all system of internal control, which includes the plan of organization of the company and all coordinate methods and measures adopted by management to safeguard the assets and to control the operations of the business.

Sales Routines

The internal business routines in regard to sales vary widely among business enterprises. The routines depend partly upon the size and the nature of the business but there are variations among businesses of the same size and nature. The sales routines that are discussed in this chapter are merely indicative of the routines that may be followed. The designs of sales invoices and sales tickets are not standardized and much variation exists. Some variation exists in regard to the items that are shown on these forms. Usually, sales tickets and sales invoices are prenumbered and all numbers are accounted for.

Cash Sales In retail stores, many sales are made for cash. These sales may be recorded on a cash register tape at the time the sales are "rung up." A cash register receipt is usually given to the customer. An additional control device is the appearance of the amount of the sale on the register in a place that is clearly visible to the customer. Commonly, the total of the cash sales for each day, as shown by the cash register tape, is recorded in the cash receipts journal. In some retail stores, a sales slip is prepared for each cash sale and the total of these sales slips for each day is recorded in the cash receipts journal.

Sales on Account—Retail In retail stores, many sales on account may be made for which the orders are given orally by the buyers in person

or by telephone. Credit should be extended to a customer only after determining that he is a good credit risk. Sales tickets are prepared for these sales. Usually, the name and address of the store and a serial number is imprinted on each ticket. A completed sales ticket shows the name and address of the customer, the date of the sale, the items purchased, the prices, and the total amount that is charged to the customer. The department and the identity of the sales person should also appear on the sales ticket. These sales tickets may be prepared in triplicate and distributed as follows:

1. Original to the accounting department for bookkeeping purposes.
2. A copy handed to the customer or included with the merchandise.
3. A copy retained in the sales ticket book.

Some stores have the sales tickets prepared in duplicate, no copy being retained in the sales ticket book. If the order is to be filled from a stockroom or warehouse, an additional copy may be used for filling the order.

Sales on Account—Wholesale and Manufacturing In wholesale and manufacturing businesses most sales are made on account. Usually, written orders are received for such sales on purchase order forms of the buyer or on sales order forms provided by the vendor. In the former instance, the order is written up by the buyer and received directly from him (usually by mail). In the latter instance, the order may be written up by a traveling sales representative of the vendor who transmits the order to the office, or the order may be written up by the buyer and mailed to the vendor (seller).

To process the orders received from customers and to complete the sales transactions, Alan Sweater Company uses the sales routines that are set forth below. The procedures used by Alan Sweater Company are typical ones.

1. After the order has been checked as to availability of the merchandise, quantities, prices, and terms, four [1] copies of the sales invoice are prepared by the sales department. Alan Sweater Company has a complete stock of all merchandise that is offered for sale and with rare exception immediate shipment can be made. Each copy of the sales invoice is a separate color to facilitate identification. The copies are also identified by imprinted name as follows: (1) Customer (the original), (2) Credit, (3) Accounting, and (4) Shipping. After the sales invoice is prepared, it is carefully compared with the order.

2. The credit copy is sent to the credit department for approval of

[1] The number of copies of the sales invoice that are prepared by a particular company may be greater or fewer than the number of copies prepared by Alan Sweater Company.

the credit sale. This copy is returned to the sales department after the credit department indicates whether or not the sale on account is approved. The credit copy is retained and filed by the sales department. After credit approval, the remaining copies of the invoice are distributed.

3. The original (customer) copy and the accounting copy are sent to the accounting department where they are held as a control of orders awaiting shipment.

4. The shipping copy is sent to the storeroom for use in filling the order. This copy is forwarded to the shipping department along with the merchandise.

5. In the shipping department, the merchandise is packed and sent to the customer. The shipping copy of the invoice is then signed by the shipping clerk and sent to the accounting department.

6. The original invoice is now mailed to the customer after it has been checked against the shipping copy. Merchandise, quantities, prices, credit terms, freight terms, discount terms, extensions, and footings are checked before the invoice is mailed to the customer.

7. The shipping copies are filed together in a binder in numerical order. This binder constitutes a shipping record.

8. The accounting copy is used to make the entries in the sales journal and in the customer's account in the subsidiary accounts receivable ledger. After the entries have been made, the accounting copy is retained in the files in the accounting department. The invoices are recorded in the sales journal in numerical order.

Sales Invoice

A sales invoice is an itemized list of merchandise sold on a specific order along with other pertinent data concerning the sale. The data included on a typical invoice are shown on the illustrated *sales invoice* of Alan Sweater Company—No. 1762. To the buyer, Bramar Company, Invoice No. 1762 is a *purchases invoice.* Most of the items appearing on the invoice are self-explanatory. "F.O.B." and "Terms" are discussed below.

ALAN SWEATER COMPANY
1272 Angle Avenue
Detroit, Michigan

Invoice No. 1762

Sold to

Bramar Company
17 Arnax St.
Cleveland, Ohio

Invoice Date August 18, 1960
Shipping Date August 19
Shipped Via Upp Truck
F.O.B. Detroit
Terms 2/10, n/30
Order No. 1629

Shipped to

Same

Quantity			Description	Unit Price	Amount
4 doz.	A720	S	Tan Sweaters	30.00	120.00
6 doz.	A720	M	Tan Sweaters	30.00	180.00
4 doz.	A720	L	Tan Sweaters	30.00	120.00
					420.00

CUSTOMER COPY

Invoice

Transportation Terms

Commonly, an invoice designates the party who is to bear the transportation charges by indicating the freight terms as "F.O.B. Shipping Point" or "F.O.B. Destination." F.O.B. means free on board freight cars, truck, or other means of transportation. "F.O.B. Shipping Point" means that transportation charges from the point of shipment are borne by the buyer. "F.O.B. Destination" means that transportation charges to the destination are borne by the seller.

Freight-In Freight, express, and other transportation charges incurred on merchandise purchased are regarded as part of the cost of the goods purchased. Such charges are commonly recorded in an account en-

titled "Freight-In" or "Transportation-In." The cost of freight-in is included in the cost of purchases in the income statement as shown in Chapter 11. The freight charges incurred on purchases of items other than goods for resale are a part of the cost of the particular items, and such charges are not recorded in the Freight-In account. For example, the freight charges incurred on purchases of equipment are part of the cost of the equipment and such charges are debited to the Equipment account.

The buyer of merchandise incurs *freight-in* when transportation charges from the point of shipment (F.O.B. Shipping Point) are borne by him. Invoice No. 1762 of Alan Sweater Company designates the freight terms as "F.O.B. Detroit (Shipping Point)." Commonly, if the freight terms are "F.O.B. Shipping Point," the goods are shipped *freight collect.* If the merchandise is shipped freight collect, the freight charges are paid to the carrier by the buyer (Bramar Company). Under these circumstances, the entries (in general journal form with explanations omitted) to record the sale shown by Invoice No. 1762 and the freight charges are as follows:

BOOKS OF THE SELLER—ALAN SWEATER COMPANY

1960 Aug.	18	Accounts receivable—Bramar Company		420.00	
		Sales			420.00

BOOKS OF THE BUYER—BRAMAR COMPANY

1960 Aug.	20	Purchases		420.00	
		Accounts payable—Alan Sweater Company			420.00
	20	Freight-in		6.00	
		Cash			6.00

Sometimes the transportation charges are paid to the carrier by the seller (the goods are shipped freight prepaid) even though the freight charges are to be borne by the buyer. In such a case, the freight charges are charged to the buyer by the seller. This may be done by including the freight charges at the bottom of the sales invoice. If the seller had paid the freight of $6 in regard to the merchandise on Invoice No. 1762 and if the freight charges were included on the invoice, the total amount on the invoice would be $426. Under these circumstances, the entries would be as follows:

BOOKS OF THE SELLER—ALAN SWEATER COMPANY

1960 Aug.	18	Accounts receivable—Bramar Company		420.00	
		Sales			420.00
	19	Accounts receivable—Bramar Company		6.00	
		Cash			6.00

BOOKS OF THE BUYER—BRAMAR COMPANY[2]

1960 Aug.	20	Purchases		420.00	
		Freight-in		6.00	
		Accounts payable—Alan Sweater Company			426.00

Freight-Out Freight, express, and other transportation charges incurred in sending goods to customers are regarded as selling expenses. Such charges are commonly recorded in an account entitled "Freight-Out" or "Transportation-Out." Freight-out is shown in the income statement as a selling expense, as illustrated in Chapter 11.

The seller of goods incurs *freight-out* when transportation charges to the destination (F.O.B. Destination) are borne by him. Let us suppose that Invoice No. 1762 of Alan Sweater Company had designated the freight terms as "F.O.B. Cleveland (Destination)." Commonly, if the freight terms are "F.O.B. Destination," the goods are shipped *freight prepaid.* If the merchandise is shipped freight prepaid, the freight charges are paid to the carrier by the seller. Under these circumstances, the entries to record the sale and the freight charges are as follows:

BOOKS OF THE SELLER—ALAN SWEATER COMPANY

1960 Aug.	18	Accounts receivable—Bramar Company		420.00	
		Sales			420.00
	19	Freight-out		6.00	
		Cash			6.00

BOOKS OF THE BUYER—BRAMAR COMPANY

1960 Aug.	20	Purchases		420.00	
		Accounts payable—Alan Sweater Company			420.00

[2] The recording of this transaction in the purchases journal is discussed and illustrated in Chapter 13.

Sometimes the transportation charges are paid to the carrier by the buyer (the goods are shipped freight collect) even though the freight charges are to be borne by the seller. In such a case, the buyer will deduct the amount paid for transportation from the amount owed to the seller for the merchandise. Under these circumstances, the entries that are made at the time of the sale may be as follows:

BOOKS OF THE SELLER—ALAN SWEATER COMPANY

1960 Aug.	18	Accounts receivable—Bramar Company		420.00	
		Sales			420.00

BOOKS OF THE BUYER—BRAMAR COMPANY

1960 Aug.	20	Purchases		420.00	
		Accounts payable—Alan Sweater Company			420.00
	20	Accounts payable—Alan Sweater Company		6.00	
		Cash			6.00

The amount owed to Alan Sweater Company by Bramar Company is $414, as shown by the records of Bramar Company. The records of Alan Sweater Company show an account receivable from Bramar Company in the amount of $420. The entries to record the payment by Bramar Company to Alan Sweater Company will be as follows:

BOOKS OF THE SELLER—ALAN SWEATER COMPANY

1960 Aug.	31	Cash		414.00	
		Freight-out		6.00	
		Accounts receivable—Bramar Company			420.00

BOOKS OF THE BUYER—BRAMAR COMPANY

1960 Aug.	31	Accounts payable—Alan Sweater Company		414.00	
		Cash			414.00

Cash Discount and Credit Terms

Cash discounts are small discounts allowed for prompt payment of invoices. The cash discount, if any, and the credit terms are designated on the invoice. Invoice No. 1762 of Alan Sweater Company designates terms as follows: 2/10, n/30. This may be read as "2%—10 days, net 30 days." It means that a discount of 2% may be taken by the customer if payment is made within 10 days of the date of the invoice. If payment is not made within 10 days, the face amount of the invoice (without deduction) is due 30 days from the invoice date.

Sales Discounts and Purchases Discounts If Bramar Company pays Invoice No. 1762 by August 28, a cash discount of $8.40 (2% of $420) is deducted from the face amount of the invoice. The actual amount of the cash payment—commonly made by check—is $411.60. The entry to record payment, on August 28, of the invoice by Bramar Company to Alan Sweater Company is as follows:

BOOKS OF THE SELLER—ALAN SWEATER COMPANY

1960					
Aug.	28	Cash		411.60	
		Sales discounts		8.40	
		Accounts receivable—Bramar Company			420.00

BOOKS OF THE BUYER—BRAMAR COMPANY

1960					
Aug.	28	Accounts payable—Alan Sweater Company		420.00	
		Purchases discounts			8.40
		Cash			411.60

A purchases discount to a buyer is a sales discount to the seller. The account used to record sales discounts may be entitled *Sales Discounts, Discounts on Sales,* or *Discounts Allowed.* The account used to record purchases discounts may be entitled *Purchases Discounts, Discounts on Purchases,* or *Discounts Earned.*

Cash discounts apply to the selling price of merchandise. They do not apply to any freight charges that may be added to, or deducted from, the price of the merchandise. For example, suppose that Invoice No. 1762 had included a charge of $6 for freight prepaid by the seller but to be borne by the buyer. The total amount payable (before cash discount) to Alan Sweater Company by Bramar Company would be $426 (see above under the caption, "Freight-In"). The discount would be computed as 2% of $420; the amount of the discount is $8.40. The

amount of the check to pay the invoice, including freight, would be $417.60 and the entry would be as follows:

BOOKS OF THE SELLER—ALAN SWEATER COMPANY

1960					
Aug.	28	Cash		417.60	
		Sales discounts		8.40	
		Accounts receivable—Bramar Company			426.00

BOOKS OF THE BUYER—BRAMAR COMPANY

1960					
Aug.	28	Accounts payable—Alan Sweater Company		426.00	
		Purchases discounts			8.40
		Cash			417.60

Cash Discounts in the Income Statement In the income statement in Chapter 11, sales discounts and purchases discounts are shown as direct reductions of sales and purchases. Sales discounts are treated as a reduction of the revenue from goods sold, and purchases discounts are treated as a reduction of the cost of goods purchased. Some accountants are of the opinion that cash discounts are of a financial nature and that they should not be included in the determination of "Net Income from Operations." These accountants report sales discounts under the "Other Expense" caption and purchases discounts under the "Other Revenue" caption.

All cash discounts taken may be recorded in the Purchases Discounts (Discounts Earned) account if the account is to be shown under the "Other Revenue" caption. If cash discounts taken are treated as reductions of the cost of the items acquired, only the discounts applicable to purchases of goods for resale are recorded in the Purchases Discounts account. The discounts taken on other items are treated as reductions of the cost of the particular items. For example, a cash discount taken on a purchase of equipment is treated as a reduction of the cost of the equipment, and the amount of the discount is credited to the Equipment account.

Recording Cash Discounts Commonly, a company will have many purchases discounts and many sales discounts. Sales discounts are usually recorded when cash is received from customers; purchases discounts are commonly recorded when cash is disbursed to creditors. The entries are recorded in the cash receipts journal and in the cash disbursements journal. Since there are usually many debits to Sales Discounts in the cash receipts journal, a column entitled "Sales Discounts Dr." usually appears in that journal. Since there are usually many credits to Purchases Discounts in the cash disbursements journal, a column entitled

"Purchases Discounts Cr." usually appears in that journal. Such columns are shown in the cash journals that are illustrated in Chapter 13.

Trade Discounts

Trade discounts are deductions from the list prices of merchandise. Unlike cash discounts, trade discounts are *not* entered in the accounting records. Trade discounts are used to determine the selling prices. Many wholesalers and manufacturers publish catalogues that show list prices for the various items of merchandise. Trade discounts usually apply to these list prices. The vendor may change selling prices merely by issuing a new schedule of discounts. Even though a vendor finds it necessary to change prices many times during a period of years, he may continue to use the same catalogue.

Trade discounts are commonly stated as percentages. The discount may be stated as a single percentage or as a series of percentages. If the list price is \$600 and the trade discount is 40%, the selling price of the merchandise is \$360, computed as follows:

List price	\$600.00
Less trade discount—40%	240.00
Selling price	\$360.00

If the list price is \$600 and the trade discount is 20%–10%–10%, the selling price is \$388.80, computed as follows:

List price	\$600.00
Less first discount 20% of \$600	120.00
Remainder	\$480.00
Less second discount 10% of \$480	48.00
Remainder	\$432.00
Less third discount 10% of \$432	43.20
Selling price	\$388.80

Notice that each discount is computed on the balance remaining after the previous discount has been deducted. Also, notice that the series of discounts—20%–10%–10%—is less than one discount of 40%.

List prices are commonly shown on an invoice, along with the amount of the deduction for trade discount and the resulting selling price. The sale of goods having a list price of \$600 with trade discount of 20%–10%–10%, is recorded as follows:

BOOKS OF THE SELLER

Accounts receivable		388.80	
Sales			388.80

BOOKS OF THE BUYER

Purchases		388.80	
Accounts payable			388.80

If the terms of this sale are "1%/e.o.m., n/60," the buyer is allowed a *cash* discount of 1% if payment is made before the *end of the month.* If payment is made before the end of the month, $3.89 (1% of $388.80) will be debited to Sales Discounts on the books of the seller and credited to Purchases Discounts on the books of the buyer.

Customer Statements

It is a common practice to send to each customer a monthly statement of his account. The statement shows the balance at the beginning of the month, the charges and credits during the month, and the balance at the end of the month. The statement serves as a collection reminder to the customer and it enables him to check his records against the statement. Errors may be detected as the result of this checking.

Purchases Routines

The systematic business routines in regard to purchases vary widely among business enterprises. The routines depend partly upon the size and nature of the business but there are variations among businesses of the same size and nature. Frequently, all procurement functions are centralized in a purchasing department. If the business is not a large one, one person known as a purchasing agent may buy all items for the enterprise. The needed items should be acquired at a cost and in a manner that is most beneficial to the company.

The purchases routines that are discussed in this chapter are indicative of the procedures that may be used to control the purchasing processes. The designs of the various business forms are not standardized and much variation exists. There is some variation in regard to the items that are shown on the forms. The number of copies of each of the various forms used in the purchases routines may be greater or fewer than the number used by the company whose routines are discussed

below. In the purchasing routines that are discussed below, all purchases are made by a purchasing agent.

Purchases Requisitions Information concerning the need for items is conveyed to the purchasing agent of Bramar Company by means of a business paper known as a *purchase requisition.* Requisitions for merchandise originate with a stock clerk who maintains a stock record card for each kind and size of merchandise for which he is responsible. Each stock record card indicates the minimum and maximum quantities. These quantities were set by the department managers of Bramar Company, and the managers must approve every purchase requisition for merchandise. Requisitions for equipment, store supplies, and office supplies originate in the particular department for which the items are to be procured and they must be approved by the manager of the department.

A purchase requisition of Bramar Company is shown below. The particular merchandise requested on Purchase Requisition No. 902 can be obtained from one vendor only. For this reason, the name of the vendor was listed on the requisition by the party requesting the merchandise.

At Bramar Company, two copies of the purchase requisition are received by the purchasing department. One copy is returned to the department that prepared the requisition after the date of order and the order number have been indicated on the form.

PURCHASE REQUISITION
Bramar Company

Date August 5, 1960 No. 902

Date wanted August 27 Dept. S

Order from Alan Sweater Company, Detroit, Michigan

Quantity	Catalog No.	Description
4 doz.	A-720	S—Tan Sweaters
6 doz.	A-720	M—Tan Sweaters
4 doz.	A-720	L—Tan Sweaters

Requisitioned by Lee Prute Approved by C. Wengel

Purchasing Department Memorandum

Date ordered August 12 Purchase Order No. 1629

Purchase Orders At Bramar Company, four copies of the purchase order are prepared by the purchasing department. The purchasing agent directs the preparation of the purchase orders, and each order is signed by him. Each copy of the purchase order is a separate color to facilitate identification. The copies are also identified by imprinted name as follows: (1) Vendor (the original), (2) Purchasing, (3) Receiving, and (4) Accounts Payable. After the purchase order is prepared, it is carefully compared with the purchase requisition. The four copies of the purchase order are then distributed as follows:

1. The original is sent to the vendor who is to supply the goods.
2. A copy is retained by the purchasing department in an unfilled orders file.
3. A copy is sent to the receiving department.
4. A copy is sent to the accounts payable department.

PURCHASE ORDER

Bramar Company
17 Arnax Street
Cleveland, Ohio

Order No. 1629

To: Alan Sweater Company
1272 Angle Avenue
Detroit, Michigan

Show order number on invoice and packages

Date August 12, 1960
Ship via Truck
F. O. B. Detroit
Terms 2/10, n/30

Wanted by August 27

Quantity			Description	Price	Amount
4 doz.	A-720	S	Tan Sweaters	30.00	120.00
6 doz.	A-720	M	Tan Sweaters	30.00	180.00
4 doz.	A-720	L	Tan Sweaters	30.00	120.00

Req. No. 902—S

BRAMAR COMPANY
By Robert Cattano
Purchasing Agent

VENDOR COPY

Receiving Reports At Bramar Company, when the goods are received, they are inspected by the receiving clerk to ascertain their condition.

He determines the quantities received by count, weight, or other measurement. The quantities, the description of the goods, and their condition are listed on a form known as a *receiving report.* The "Receiving" copy of the purchase order that has been received from the purchasing department serves as a basis for the preparation of the receiving report.[3] The receiving reports of Bramar Company also show the following information: (1) the date the goods were received, (2) the purchase order number, (3) the name of the vendor from whom the goods were received, (4) the means of delivery, and (5) whether the goods arrived freight collect or freight prepaid. A copy is sent to the purchasing department and another copy is sent to the accounts payable department.

In the purchasing department, the copy of the receiving report is compared with the copy of the purchase order that was retained in the unfilled orders file. If all the merchandise has been received in good condition, the copy of the purchase order is removed from the unfilled orders file and filed with the completed orders.

Checking Purchases Invoices Invoice No. 1762 of Alan Sweater Company was received by Bramar Company on August 20, 1960. The invoice has been previously illustrated in this chapter. The invoice concerns the goods that were ordered by Bramar Company on Purchase Order No. 1629. Before the purchase is recorded, the buyer should ascertain the following:

1. The purchase order agrees with the invoice in regard to: (a) The merchandise ordered, (b) the prices, (c) the freight terms, and (d) the cash discount and credit terms.
2. All merchandise has been received and the condition of the merchandise is good.
3. The extensions and footings on the invoice are correct.

Commonly, a checking form is attached to the invoice or imprinted (by rubber stamp) on the invoice. The checking form used by Bramar Company is shown below:

Purchase Order:	Extensions ✓✓
Merchandise LC	Footings ✓✓
Prices LC	Account No. 60
F.O.B. LC	Approval for payment T. Chappo
Terms LC	
Receiving Report:	Entered
Quantities QK	Date paid
Condition QK	Check No.

[3] In some enterprises, several copies of the purchase order are sent to the receiving department. The quantities and the condition of the goods are indicated on these copies and no separate receiving report forms are used. In some enterprises, the "Receiving" copy of the purchase order does not show quantities and prices. The use of such a copy assures an independent count by the receiving department.

The use of this form helps to assure that the invoice is completely checked, and it fixes responsibility in regard to each checking function.

At Bramar Company, each invoice is sent directly to the accounts payable department. Here the invoice is checked against the copy of the purchase order that was received from the purchasing department and against the copy of the receiving report that was received from the receiving department. The invoice is also checked as to extensions and footings and the account (or accounts) to be charged is indicated. A responsible official then approves the invoice for payment. He gives his approval only after he is convinced, by examination of the invoice and other forms, that the checking functions have been completely performed. The invoice may then be entered in the journal. When the invoice is paid, the date paid and the check number are shown on the checking form.

Debit Memoranda and Credit Memoranda

The purchases routines should disclose the following irregularities if they exist: (1) Shortages and overages, (2) errors in invoices, and (3) defective, damaged, or otherwise unsatisfactory items.

At Bramar Company, a debit memorandum [4] is prepared for each claim for credit that may arise in regard to the above irregularities. Most of the debit memoranda concern merchandise, and they are entered in the purchases returns and allowances journal as shown in Chapter 5. When the matching credit memoranda are received from creditors, they are not recorded but they are filed, as supporting evidence, with the debit memoranda that they match. In a few cases, the debit memoranda do not concern merchandise and, therefore, the credit is *not* to the Purchases Returns and Allowances account. In these cases, the memoranda are recorded in the general journal and the proper accounts are credited. If the claim for credit concerns a purchase of equipment, the credit is to the Equipment account.

At Bramar Company, credit memoranda are issued for all claims received from customers that are found to be proper. Claims for merchandise returned are verified by a sales returns receiving slip which is prepared by the receiving department. The credit memoranda are recorded in the sales returns and allowances journal as shown in Chapter 5. If matching debit memoranda are received from customers, they are not recorded but they are filed, as supporting evidence, with the credit memoranda that they match.

At Bramar Company, credit memoranda are not issued in connection

[4] Many businesses do not prepare debit memoranda. In such cases, the credit memoranda received are the bases for the entries in the records.

with items purchased. If the vendor is entitled to a greater amount than is shown on the invoice, a corrected invoice is requested from the vendor. The vendor is entitled to a greater amount than is shown on the invoice if overages are retained by the buyer or if the invoice amount was understated due to errors.

A debit memorandum of Bramar Company and the "matching" credit memorandum of Alan Sweater Company are shown below. At Bramar Company, debit memoranda are approved by the purchasing agent. At Alan Sweater Company, credit memoranda are approved by the sales manager.

DEBIT MEMORANDUM

Bramar Company
17 Arnax Street
Cleveland, Ohio

No. 108

To Alan Sweater Company
1272 Angle Avenue
Detroit, Michigan

Date June 13, 1960
Your Invoice Date June 10
Your Invoice No. 1401

WE DEBIT YOUR ACCOUNT AS FOLLOWS:

1 doz. X-204 Sweaters returned—faded	30.00

BRAMAR COMPANY
Robert Cattano
Purchasing Agent

CREDIT MEMORANDUM

Alan Sweater Company
1272 Angle Avenue
Detroit, Michigan

No. 144

To Bramar Company
17 Arnax Street
Cleveland, Ohio

Date June 16, 1960
Our Invoice Date June 10
Our Invoice No. 1401

WE CREDIT YOUR ACCOUNT AS FOLLOWS:

1 doz. X 204 Sweaters returned—faded	30.00

ALAN SWEATER COMPANY
A. Pollack
Sales Manager

QUESTIONS

1. (a) What are some of the business forms that provide information for entries in the journals of a business organization? (b) Are these business forms prepared within the organization?
2. Why is management vitally concerned with the adequacy of the system of internal accounting control?
3. (a) What is an invoice? (b) Distinguish between a sales invoice and a purchases invoice.
4. Why are checks usually serially prenumbered?
5. If all copies of a sales invoice are identified by imprinted name, is there any advantage in using a separate color for each copy?
6. Explain the meaning of the following freight terms: (a) F.O.B. Shipping Point. (b) F.O.B. Destination.
7. Should freight charges on a purchase of office equipment be debited to the Freight-In account? Explain.
8. May cash discounts taken on purchases of equipment be credited to the Purchases Discounts account if the balance of the Purchases Discounts account is (a) Deducted from purchases in the income statement? (b) Shown under the "Other Revenue" caption in the income statement?
9. (a) Are trade discounts entered in the accounting records? (b) What is the recorded amount of the sale made under the following terms?

List price	$100.00
Trade discount	20%–10%
Cash discount	1/10

10. (a) Why is a copy of the purchase order sent to the accounts payable department? (b) Why is a copy of the receiving report sent to the accounts payable department?
11. At X Enterprise, a debit memorandum is prepared and recorded for items returned to a vendor when the goods are returned. Is an accounting entry made when the matching credit memorandum is received from the vendor?

PROBLEMS

Problem 12-1

Oval Company, Darby, New York, sold merchandise on account to Circle Company, Chant, Ohio. On the invoice date, Oval Company paid freight charges of $20 to the carrier. The goods were shipped freight prepaid at the request of Circle Company. The following data were taken from the invoice:

Merchandise price	$1,200.00
Freight charges prepaid	20.00
Total	$1,220.00

Invoice date: June 10, 1960
Terms: 2/10, n/30
F.O.B.: Darby

Payment of the invoice, including freight charges, was made on June 16, 1960.

Required:

(A) The entries, in general journal form, to record the above transactions on the books of Oval Company.
(B) The entries, in general journal form, to record the above transactions on the books of Circle Company.

Problem 12-2

Prepare general journal entries to record the following transactions:

(A) On the books of Seller Company.
(B) On the books of Buyer Company.

1960

July 8—Seller Company sold merchandise on account to Buyer Company (a local firm); Invoice #749, $180, Terms: 2%/e.o.m., n/60.
11—Buyer Company prepared and mailed a debit memo to Seller Company because of a shortage, Debit Memo #27—$30.
12—Seller Company received Debit Memo #27 of Buyer Company.
13—Seller Company prepared and mailed a credit memo to Buyer Company, Credit Memo #21—$30.
14—Buyer Company received Credit Memo #21 of Seller Company.
28—Buyer Company mailed Check #336 to Seller Company in full payment of account.
29—Seller Company received Check #336 of Buyer Company.

Problem 12-3

Assume that Buyer Company, in Problem 2, was purchasing office equipment instead of goods for resale. Prepare general journal entries to record the transactions of Problem 2 on the books of Buyer Company.

Problem 12-4

On July 18, 1960, Vemon Company sold merchandise on account to Semur Company. The following data were taken from the invoice:

List price—$600
Trade discount—40%–10%–10%
Terms—1/10, n/30
F.O.B.—Shipping Point

On July 20, the merchandise was received and freight charges of $30 were paid by Semur Company.

On July 27, Semur Company paid for the merchandise purchased.

Required:

(A) General journal entries to record the above transactions on the books of Vemon Company.
(B) General journal entries to record the above transactions on the books of Semur Company.

Problem 12-5

On November 14, 1960, BB Company sold merchandise on account to CC Company. The following data were taken from the invoice:

List price—$1,000
Trade discount—20%–10%
Terms—1/10, n/30
F.O.B.—Destination

On November 14, the freight charges of $15 were prepaid by the BB Company.

On November 18, one-fourth of the merchandise was returned by the CC Company. The CC Company does not use debit memoranda.

On November 21, a credit memo was issued to CC Company by BB Company. The credit memo was received by CC Company on November 22.

On November 23, CC Company paid for the merchandise purchased. BB Company received the payment on November 23.

Required:

(A) General journal entries to record the above transactions on the books of BB Company.
(B) General journal entries to record the above transactions on the books of CC Company.

Problem 12-6

As of January 1, 1963, the Accounts Receivable control account of Fironn Company appears as follows:

ACCOUNTS RECEIVABLE

				Dr.	Cr.	Balance
1963 Jan.	1	Balance		82,317.32		82,317.32

The following data apply to the month of January 1963:

(a) Merchandise sold on account:
List price—$240,000
Trade discount—50%–10%–10%
Terms—1/10, n/30

(b) Credit memoranda were issued to customers for merchandise returned. The list price of the merchandise returned was $2,000.

(c) The account of Jonson & Rellot, a customer, was written off as uncollectible. The balance of the account was $360.25.

(d) Cash in the amount of $94,316.15 was received from customers in payment of accounts. Cash discounts taken by customers amounted to $716.14.

Fironn Company uses the following journals: Sales, Purchases, Cash Receipts, Cash Disbursements, Sales Returns and Allowances, Purchases Returns and Allowances, and General.

Required:

Show the Accounts Receivable control account as it appears after January posting has been completed. Show journal references in the account by symbols without page numbers.

SUPPLEMENTARY PROBLEMS

Problem 12-7

On January 16, 1961, Danrew Company sold merchandise on account to Draben Company. The following data were taken from the invoice:

List price—$100
Trade discount—30%–10%
Terms—2/10, n/30
F.O.B.—Destination

On January 16, the goods were shipped freight collect.

On January 18, Draben Company paid the freight charges of $8 to the carrier.

On January 30, Draben Company made payment in settlement of account.

Required:

(A) General journal entries to record the above transactions on the books of Danrew Company.

(B) General journal entries to record the above transactions on the books of Draben Company.

(C) General journal entry to record the payment on the books of Draben Company if payment had been made on January 24. (Form 1)

Problem 12-8

Prepare entries, in general journal form, to record the following transactions:
(A) On the books of S Company.
(B) On the books of B Company. (Form 1)

1963
July 16—S Company of Rowlor, Texas, sold merchandise on account to B Company of Ponta, Kansas. The following data were taken from the invoice:

Merchandise price	$660.00
Freight charges prepaid	24.00
Total	$684.00

Invoice #1,492
Terms: 2/10, n/30
F.O.B.: Rowlor

16—S Company paid the freight charges of $24 to the carrier.
18—B Company received the invoice and the merchandise. The purchase was recorded on the books of B Company.
19—B Company prepared and mailed to S Company Debit Memo #145 in the amount of $12 for a minor shortage that was discovered when the merchandise for Invoice #1,492 was unpacked.
22—S Company received Debit Memo #145 of B Company.
23—S Company prepared and mailed to B Company Credit Memo #88 for $12.
24—B Company received Credit Memo #88 of S Company.
25—B Company mailed Check #2,774 to S Company in full payment of account.
26—S Company received Check #2,774 of B Company.

Problem 12-9

As of January 1, 1963, the Accounts Receivable control account of Sagur Company appears as follows:

ACCOUNTS RECEIVABLE

				Dr.	Cr.	Balance
1963 Jan.	1	Balance		45,554.53		45,554.53

The following data apply to the month of January, 1963:

(a) Merchandise sold on account:
List price—$166,000
Trade discount—40%–20%–10%
Terms—1½/10, n/30

(b) Credit memoranda were issued to customers for merchandise returned. The list price of the merchandise returned was $1,500.
(c) On January 31, 1963, the account of a customer was written off as uncollectible. The balance of the account was $291.21.
(d) Cash in the amount of $66,413.29 was received from customers in payment of accounts. Cash discounts taken by customers amounted to $748.17.

Sagur Company uses the following journals: Sales, Purchases, Cash Receipts, Cash Disbursements, and General.

Required:

Show the Accounts Receivable control account as it appears after January posting has been completed. Show journal references in the account by symbols without page numbers. (Form 7)

Problem 12-10

On October 7, 1963, SS Desk Company sold five desks on account to Litkin & Medda, Certified Public Accountants. The following data were taken from the invoice:

List price—$2,000.00 ($400 each)
Trade discount—40%–10%
Terms—1/10, n/30
F.O.B.—Shipping Point

On October 9, the desks were received by Litkin & Medda. Litkin & Medda paid freight charges of $90 to the carrier. The purchase was recorded on the books of Litkin & Medda.

On October 10, Litkin & Medda discovered that space requirements for the desks had been misquoted by SS Desk Company and that only four desks could be used. Litkin & Medda notified SS Desk Company that one desk would have to be returned.

On October 14, Litkin & Medda received a credit memorandum from SS Desk Company for one desk: Credit Memo #134. The credit memorandum included $18 credit for freight charges on the desk that Litkin & Medda had paid on October 9. A delivery truck of SS Desk Company was used to pick up the desk that Litkin & Medda could not use.

On October 16, Litkin & Medda made payment to SS Desk Company in settlement of account.

Required:

Prepare entries, in general journal form, to record the above transactions on the books of Litkin & Medda. (Form 1)

13

Special Journals—Variations

Special Journals Used

The special journals used by an enterprise are determined by the nature of the transactions of the enterprise. The cash receipts journal and the cash disbursements journal are the commonest special journals. A sales journal or a "service-sales" journal is used by most enterprises. An enterprise that does not sell goods or services on account, however, does not use a sales journal. A purchases journal is not used unless there are purchases on account to be recorded in such a journal. It was indicated in Chapter 5 that returns and allowances journals are not used if there are few transactions that would be recorded in such journals. A company may have many sales returns and allowances but few purchases returns and allowances. In such a case, a sales returns and allowances journal should be maintained, but a purchases returns and allowances journal is not used.

If a business receives a great many notes, they may be recorded in a special *notes receivable journal* rather than in the general journal. Such a journal is not commonly found because most enterprises do not receive a great many notes. Thus, commonly the notes that are received are recorded in the general journal with a memorandum record of each note being maintained in a notes receivable register. This register is a supplementary record. It is *not* a journal and the entries in it are not posted.

A payroll record may be used as a supplementary record or it may be used as a special journal (*the payroll journal*). The payroll record is discussed in Chapter 20. Another special journal in common use is the *voucher register*. The voucher register is discussed in Chapter 14.

Variations in Special Journals

The contents, the number of columns, and the arrangement of data in a special journal vary widely among business enterprises. Such variations are found in regard to each special journal. The journals are designed to fit the needs of the particular enterprise. Many of the variations in the journals are discussed in this chapter.

Multi-Column Sales Journal

For many reasons, a multi-column sales journal may be used instead of a sales journal with a single amount column. Some of the reasons for the use of a multi-column sales journal are listed below:

1. The need for debits and/or credits to accounts other than Accounts Receivable and Sales may arise in connection with the recording of the sale of merchandise on account.
2. It may be desirable to use two or more sales accounts rather than one.
3. It may be desirable to record cash sales as well as charge sales in the sales journal.

Some multi-column sales journals are illustrated and discussed below. A multi-column sales journal, in which cash sales as well as sales on account are recorded, is illustrated in Chapter 25.

Sales Taxes In many states and cities, retailers must collect sales taxes from customers and remit these taxes periodically to the state or city. The amounts charged to the customers for sales taxes are credited to a Sales Taxes Payable account at the time of each sale. The enterprise that makes such sales may use a multi-column sales journal as shown below:

SALES JOURNAL

Date		Customer	Invoice No.	Ref.	Debit	Credits	
					Accounts Receivable	Sales	Sales Taxes Payable
1960 Dec.	1	P. A. Yarce	4,322	✓	51.50	50.00	1.50

When a remittance of the sales taxes is made to the state or city, the following entry is made in the cash disbursements journal:

	Sales taxes payable		xxx.xx	
	Cash			xxx.xx

The balance of the Sales Taxes Payable account is shown in the balance sheet as a current liability.

In some cases, sales tax stamps are purchased from the state in anticipation of taxable sales to be made. Thus, the state receives payment in advance for the taxable sales. The following entry is made in the cash disbursements record at the time of such a payment.

	Prepaid sales taxes		xxx.xx	
	Cash			xxx.xx

When a sale is made, the customer is given stamps for the amount of the tax charged to him. If the sale to P. A. Yarce had been made under these circumstances, it would have been recorded in the sales journal in the manner shown above, except that the credit column entitled "Sales Taxes Payable" would read "Prepaid Sales Taxes." The balance of the Prepaid Sales Taxes account is shown in the balance sheet as a current asset.

Two or More Sales Accounts Some sales made by an enterprise may be subject to sales taxes and some may be exempt. In such a case, the taxable sales may be recorded in one sales account and the exempt sales in another sales account. These sales accounts may be entitled *Sales—Taxable* and *Sales—Exempt*. The headings of the sales journal, in such a case, may be as follows:

SALES JOURNAL (12)

Date		Customer	Inv. No.	Ref.	Debit	Credits		
					Accounts Receivable	Sales—Exempt	Sales—Taxable	Sales Taxes Payable
1960								
Dec.	1	N. W. Moon	794	✓	80.00	80.00		
	1	The Decker Co.	795	✓	103.00		100.00	3.00
	2	Roth & Son	796	✓	306.00	100.00	200.00	6.00

The sales tax in the above illustration is 3% of selling prices. The sale to Roth & Son included exempt items having a selling price of $100 and taxable items having a selling price of $200.

If an enterprise sells few products, a separate sales account may be used for each product. Similarly, an enterprise that has few sales departments may use a separate sales account for each department. In these cases, a separate column is used in the sales journal for each sales account.

Freight-Out in Sales Journal It was indicated in Chapter 12 that freight charges on sales are sometimes prepaid by the seller even though the freight terms are "F.O.B. Shipping Point." In such cases, the sales invoice that is rendered to the buyer may include the freight charges. As previously discussed, the entries made on the books of the seller, in such a case, may be as follows:

	Accounts receivable—Bramar Company		420.00	
	Sales			420.00
	(This entry, in the sales journal, records the selling price of the merchandise)			
	Accounts receivable—Bramar Company		6.00	
	Cash			6.00
	(This entry, in the cash disbursements journal, records the freight charges prepaid as a debit to the customer's account)			

Under the circumstances discussed in the preceding paragraph, it may be more expedient to use the following method:

1. Record the prepaid freight charges on *all* outgoing shipments as debits to the Freight-Out account.
2. Make the following entry in the sales journal for each sales invoice that includes the amount of freight charges prepaid by the seller but to be borne by the buyer:

Debit:

Accounts Receivable for the full amount of the invoice

Credit:

(A) *Sales* for the selling price of the merchandise.

(B) *Freight-Out* for the amount of the freight charges.

Under this method, the entries illustrated above would be recorded as follows:

	Freight-out		6.00	
	Cash			6.00
	(This entry, in the cash disbursements journal, records the freight charges prepaid as a debit to the Freight-Out account)			

SALES JOURNAL

Date	Customer	Invoice No.	Ref.	Debit	Credits	
				Accounts Receivable	Sales	Freight-Out
	Bramar Company	1,762	✓	426.00	420.00	6.00

The entry in the sales journal removes the prepaid freight charges that are borne by the buyer from the Freight-Out account. Any balance remaining in the Freight-Out account represents the freight charges, on outgoing shipments, that are borne by the seller.

Multi-Column Purchases Journal

For many reasons, a multi-column purchases journal may be used instead of a purchases journal with a single amount column. Some of the reasons for the use of a multi-column purchases journal are listed below:

1. The need for debits to accounts other than Purchases may arise in connection with purchases of merchandise on account.
2. It may be desirable to record purchases of equipment and supplies on account, along with purchases of merchandise on account, in the purchases journal.
3. It may be desirable to use two or more purchases accounts rather than one.

Some multi-column purchases journals are illustrated and discussed below.

Freight-In in Purchases Journal Let us assume that an enterprise has received an invoice that shows:

Merchandise	$420.00
Freight charges prepaid	6.00
Total	$426.00

If a single-column purchases journal is in use, the invoice is recorded as follows:

PURCHASES JOURNAL

Date	Creditor	Invoice Date	Ref.	Amount
	Alan Sweater Company	Aug. 18	✓	420.00

GENERAL JOURNAL

		Freight-in		6.00	
		Accounts payable—Alan Sweater Company			6.00

If there are many such transactions, it is desirable to set up a *Freight-In* column in the purchases journal. The above invoice may then be completely recorded in the purchases journal as shown below.

PURCHASES JOURNAL

Date	Creditor	Invoice Date	Ref.	Credit	Debits	
				Accounts Payable	Purchases	Freight-In
	Alan Sweater Company	Aug. 18	✓	426.00	420.00	6.00

Purchases of Equipment and Supplies on Account Only purchases of merchandise on account are recorded in a single-column purchases journal. Purchases of equipment and supplies on account are recorded in the general journal if a single-column purchases journal is in use. If there are many purchases of equipment and supplies on account, it is more expedient to use a multi-column purchases journal in which *all purchases on account* may be recorded. Such a journal is illustrated on page 274.

Special Columns in the Purchases Journal All entries in the multi-column purchases journal have a common credit and, therefore, only one credit column is required—Accounts Payable. The transactions that are recorded in the multi-column purchases journal do not have a common debit and, therefore, more than one debit column is provided. A separate debit column may be provided for each account that is debited more than a few times each month. Debits to accounts for which a special column has not been provided are recorded in the sundry debit column. In the multi-column purchases journal that is illustrated below, the appearance of special debit columns for Store Supplies and Office Supplies indicates that the company frequently purchases such supplies on account. The purchases of store equipment and office equipment are recorded in the sundry column because such purchases on account are made infrequently by the company. If the need to debit the Freight-In account in the purchases journal occurs infrequently, no special column is provided for the account and any debits to Freight-In are recorded in the sundry column.

Many accountants record purchases of supplies as debits to expense accounts rather than debits to asset accounts. Thus, the debits to Store Supplies and Office Supplies in the illustration might be replaced by debits to Store Supplies Expense and Office Supplies Expense.

Two or More Purchases Accounts If an enterprise buys few products for resale, a separate purchases account may be used for each product. Similarly, an enterprise that has few sales departments may use a separate purchases account for each department. In these cases, a separate column is used in the purchases journal for each purchases account.

Unpaid Invoices File Invoices are entered in the purchases journal after they have been approved for payment in the manner explained in Chapter 12. The entry of an invoice in the purchases journal is noted on the checking form that is attached to, or stamped on, the invoice (see illustration in Chapter 12). The invoices are then filed in an unpaid invoices file. Commonly, the invoices are filed according to date on which payment is to be made. If a cash discount is available, careful filing by dates is desirable so that no discounts are overlooked. Invoices that do not offer a cash discount are also filed according to date so that they will be paid before the due date passes. A company may, of course, be unable to make payment within the discount period and, sometimes, payment is not made within the credit period.

Unpaid Bills for Expenses It has been explained, in Chapter 8, that any unpaid bills for expenses that have been incurred must be recorded at the end of the fiscal period. The liability for the total of these expenses may be recorded by a credit to a Bills Payable account. The liability may be shown in the balance sheet as Bills Payable or the amount of the bills payable may be added to the amount of the accounts payable and the total shown as Accounts Payable. Frequently, such unpaid bills are recorded by a credit to the Accounts Payable account instead of the Bills Payable account. In this case, the balance of the Accounts Payable control account will temporarily equal the amount of the unpaid bills for expenses plus the total of the creditors' accounts in the accounts payable subsidiary ledger. Commonly, the amount of the unpaid bills for expenses is removed from the Accounts Payable (or Bills Payable) account on the first day of the new fiscal period by reversing the entry that recorded the unpaid bills. The subsequent payments of these unpaid bills are recorded—like the payments of other bills for expenses—by debits to the proper expense accounts.

Another method of recording purchases and expenses is discussed in Chapter 14.

PURCHASES JOURNAL (11)

Date		Creditor	Inv. Date	✓	Credit	Debits						
					Accounts Payable	Purchases	Freight-In	Store Supplies	Office Supplies	Sundry Account	Ref.	Amount
1960												
Nov.	1	Ace, Inc.	11/1	✓	200.00	200.00						
	2	Race Desk Co.	11/1	✓	120.00					Office equipment	62	120.00
	4	Elk Supply Co.	11/2	✓	60.00			40.00	20.00			
	4	Ball & Company	11/2	✓	320.00	300.00	20.00					
	7	Box & Son	11/3	✓	70.00			70.00				
	8	A. L. Luck Co.	11/3	✓	630.00	600.00	30.00					
	10	Prodo, Inc.	11/8	✓	180.00	180.00						
	14	Cross & Cover	11/10	✓	240.00	240.00						
	16	Elk Supply Co.	11/14	✓	40.00			30.00	10.00			
	18	Carnes Company	11/15	✓	300.00					Store equipment	64	300.00
	18	Parfac Company	11/17	✓	208.00	200.00	8.00					
	22	Ace, Inc.	11/21	✓	120.00	120.00						
	25	Box & Son	11/22	✓	50.00			40.00	10.00			
	28	Ball & Company	11/25	✓	360.00	330.00	30.00					
	30	Axdor-Jones, Inc.	11/29	✓	200.00	200.00						
					3,098.00	2,370.00	88.00	180.00	40.00			420.00
					(120)	(302)	(304)	(33)	(35)			

Cash Receipts Journal

All receipts of cash should be recorded in the cash receipts journal. The contents, the number of columns, and the arrangement of data in the cash receipts journal are determined by the nature of the transactions for which cash is received. Receipts of cash are recorded as debits to the Cash account. A special debit column entitled *Cash* is, therefore, provided in the cash receipts journal. A special debit column should be provided for any other account that is debited frequently in the process of recording cash receipts transactions. A special credit column should be provided for any account that is credited frequently in the process of recording cash receipts transactions. Some of the variations in cash receipts journals are discussed and illustrated below.

Recording Sales Discounts Entries to record sales discounts are illustrated, in general journal form, in Chapter 12. These entries are made when cash is received from debtors and, therefore, the transactions are recorded in the cash receipts journal. Commonly, there are many debits to the Sales Discounts account each month. In such cases, a special debit column entitled *Sales Discounts* should be provided in the cash receipts journal.

Except for the additional debit column—Sales Discounts, the column headings that appear in the cash receipts journal that is presented below are the same as the headings in the cash receipts journal illustrated in Chapter 4.

CASH RECEIPTS JOURNAL (12)

Date		Account Credited	Debits		Credits				
			Cash	Sales Discounts	Accounts Receivable		Sales	Sundry	
					✓	Amount		Ref.	Amount
1960									
Dec.	1	Edgerock, Inc.	98.00	2.00	✓	100.00			
	2	Bramar Company	411.60	8.40	✓	420.00			
	5	Notes receivable	1,010.00					22	1,000.00
		Interest income						611	10.00
	6	Sales	60.00				60.00		
	6	The Arc Company	196.00	4.00	✓	200.00			
	7	Atlantos, Inc.	56.00		✓	56.00			

Only the transactions that occurred during the period December 1, 1960, to December 7, 1960, are shown in the illustration.

On December 1, $98 was received from Edgerock, Inc., in payment of an invoice for $100. The debtor was allowed a cash discount of $2 (2% of $100) because payment was made within the cash discount period designated on the invoice. The total credit to the account of Edgerock, Inc., is $100. An analysis of this credit is shown below:

Credit for cash received	$ 98.00
Credit for sales discount	2.00
Total credit	$100.00

The transaction of December 2, is the same as the transaction of August 28 that is illustrated, in general journal form, on page 252 (Chapter 12). All such transactions are recorded in the cash receipts journal. The general journal form was used in Chapter 12 to facilitate the presentation.

On December 7, Atlantos, Inc., remitted cash in the amount of $56 in payment of an invoice of $56. No cash discount was taken because payment was made after the cash discount period had expired. In such a case, the amount of the credit to Accounts Receivable is the same as the amount of the debit to Cash.

Use of More Than One Line in a Special Journal Most transactions can be recorded on one line in a special journal. Two or more lines may be used to record a transaction if one line is insufficient. Notice that the transaction of December 5, in the above cash receipts journal, is recorded on two lines. The entry records the collection of the maturity value of an interest-bearing note receivable. The debit to Cash ($1,010) is offset by credits as follows:

1. The face amount of the note ($1,000) is credited to Notes Receivable.
2. The interest on the note ($10) is credited to Interest Income.

Two lines are used to record the transaction in the cash receipts journal because two accounts are credited in the sundry column. In a very few cases, more than two lines may be needed to record a transaction in a special journal.

Explanation Columns As indicated in Chapter 4 (page 70) and Chapter 5 (page 95), explanation columns may be provided in the special journals if they are desirable. The explanations are concise. If a column for explanations had been provided in the cash receipts journal that is illustrated above, that column might appear as shown below.

Date		Account Credited	Explanation	Cash R' / De / Cash
1960				
Dec.	1	Edgerock, Inc.	Invoice #2643, less 2%	98.00
	2	Bramar Company	Invoice #2645, less 2 %	411.60
	5	Notes receivable	Collection of note and interest—Joe Rudd	1,010.00
	6	Sales	Cash sales	60.00
	6	The Arc Company	Invoice #2647, less 2%	196.00
	7	Atlantos, Inc.	Invoice #2640	56.00

Sundry Debit Column in Cash Receipts Journal In recording cash receipts transactions, many different accounts are credited. Generally, special credit columns and a sundry credit column are provided in the cash receipts journal. In recording cash receipts transactions, Cash and Sales Discounts are not the only accounts that may need to be debited. General journal entries may be made in conjunction with the cash receipts journal entries to record other debits. It is more expedient, however, to record the entire transaction in the cash receipts journal. Some accountants record the other debits in the cash receipts journal by entries in the *Sundry Credit* column. This may be done by writing the amount in red ink or by writing Dr. after the amount. Sundry debits in connection with the receipts of cash may occur several times a month. If this is the case, it is desirable to provide a *Sundry Debit* column in the cash receipts journal. Any transaction that includes the receipt of cash can be completely recorded in the cash receipts journal if the journal has a sundry debit column as well as a sundry credit column. A cash receipts journal with a sundry debit column is illustrated below. Only the transactions that affected the sundry columns of the cash receipts journal are shown in this illustration.

In many enterprises, the sundry accounts to be debited or credited are designated by placing the account numbers, instead of the account names, in the sundry account column. Posting may then be indicated by placing a check mark in the sundry reference column. Time and space savings are realized when this procedure is used.

This cash receipts journal shows entries to record the following transactions:

Dec. 1—The discounting of a note payable. This subject is discussed in Chapter 7. Notice that the entry includes a debit to the Interest Expense account.

CASH RECEIPTS JOURNAL (12)

Date		Received from	Debits: Cash	Debits: Sales Discounts	Credits: Accounts Receivable ✓	Credits: Accounts Receivable Amount	Credits: Sales	Sundry: Account	Sundry: Ref.	Sundry: Debit	Sundry: Credit
1960 Dec.	1	First National Bank	1,980.00					Interest expense	711	20.00	
								Notes payable	72		2,000.00
	7	First National Bank	1,004.95					Notes receivable discounted	23		1,000.00
								Interest income	611		4.95
	13	First National Bank	997.88					Interest expense	711	2.12	
								Notes receivable discounted	23		1,000.00
	22	The Artless Company	799.00		✓	800.00		Collection expense	712	1.00	
	23	Bramar Company	414.00		✓	420.00		Freight-out	462	6.00	
	27	Bramar Company	405.60	8.40	✓	420.00		Freight-out	462	6.00	
	28	Arbon Corporation	68.20	1.80	✓	90.00		Accounts payable	70/✓	20.00	
			12,642.52	102.41		8,502.00	293.10			55.12	4,004.95
			(2)	(205)		(21)	(202)				

Dec. 7—The discounting of a note receivable. This subject is discussed in Chapter 7. The total interest on the note is greater than the bank's discount charge and the excess is recorded as a credit to Interest Income.

13—The discounting of a note receivable. The bank's discount charge is greater than the total interest on the note and the excess is recorded as a debit to Interest Expense.

22—Collection of a sight draft in the amount of $800, less collection charge of $1. This subject is discussed in Chapter 7. Notice that the entry includes a debit to Collection Expense.

23—Collection of a sale on account, freight charges deducted by the customer. This subject is covered in Chapter 12. The invoice was not paid within the cash discount period.

27—Collection of a sale on account, freight charges deducted by the customer. This transaction is the same as the one recorded on December 23, except that this invoice was paid within the cash discount period. The cash discount of 2% is computed on the selling price of the merchandise—$420.

28—Collection of a sale on account, less amount owed to the customer (debtor). The transaction is recorded in the cash disbursements journal of Arbon Corporation (Check #813) which is illustrated on a subsequent page in this chapter. The transaction is discussed in connection with the cash disbursements journal.

Cash Disbursements Journal

All disbursements of cash should be recorded in the cash disbursements journal. The contents, the number of columns, and the arrangement of data in the cash disbursements journal are determined by the nature of the transactions for which cash is disbursed. Disbursements of cash are recorded as credits to the Cash account. A special credit column entitled *Cash* is, therefore, provided in the cash disbursements journal. A special credit column should be provided for any other account that is credited frequently in the process of recording cash disbursements transactions. A special debit column should be provided for any account that is debited frequently in the process of recording cash disbursements transactions. Some of the variations in cash disbursements journals are discussed and illustrated below.

Recording Purchases Discounts Entries to record purchases discounts are illustrated, in general journal form, in Chapter 12. These entries are made when cash is disbursed to creditors and, therefore, the transactions are recorded in the cash disbursements journal. (An alternative

method of recording cash discounts on purchases is covered in Chapter 14.) Commonly, there are many credits to the Purchases Discounts account each month. In such cases, a special credit column entitled *Purchases Discounts* should be provided in the cash disbursements journal.

Except for the additional credit column entitled "Purchases Discounts" and the omission of the debit column entitled "Purchases," the column headings that appear in the cash disbursements journal presented below are the same as the headings in the cash disbursements journal that is illustrated in Chapter 5.

CASH DISBURSEMENTS JOURNAL (12)

Date		Payee	Ck. No.	Credits		Debits				
				Cash	Purchases Discounts	Accounts Payable		Sundry		
						✓	Amount	Ref.	Account	Amount
1960										
Dec.	1	Orbax, Inc.	189	99.00	1.00	✓	100.00			
	1	Alan Sweater Co.	190	411.60	8.40	✓	420.00			
	2	City Bank	191	505.00				✓	172	500.00
								✓	812	5.00
	2	Arno Realty Co.	192	100.00				✓	640	100.00
	2	City News	193	30.00				✓	502	30.00
	2	Best & Associates	194	50.00		✓	50.00			
	2	Matone Company	195	98.50	1.50	✓	100.00			

Only the transactions that occurred during the first two days of December, 1960, are shown in the illustration. The company makes very few cash purchases and, therefore, no "Purchases" column is provided in the cash disbursements journal. If a cash purchase is made, it is recorded as a debit to the Purchases account in the sundry column of this journal.

Check No. 189, in the amount of $99, was sent to Orbax, Inc., in payment of an invoice of $100. The invoice designated cash discount and credit terms as follows: 1/10, n/30. Payment was made within ten days from the invoice date and, therefore, the debit to the account of Orbax, Inc. (Accounts Payable) is $100. An analysis of this debit is shown below:

Debit for cash paid	$ 99.00
Debit for purchases discount	1.00
Total debit	$100.00

Check No. 190, in the amount of $411.60, was sent to Alan Sweater Co. in payment of an invoice of $420. This transaction is the same as the transaction of August 28 that is illustrated, in general journal form, on page 252 (Chapter 12). Since this transaction includes the disbursement of cash, it is recorded in the cash disbursements journal. The general journal form was used in Chapter 12 to facilitate the presentation.

Check No. 194, in the amount of $50, was sent to Best & Associates in payment of an invoice of $50. No cash discount was taken and, therefore, the amount of the debit to Accounts Payable is the same as the amount of the credit to Cash. The creditor (seller) may have offered no cash discount or payment may have been made after the cash discount period had expired. The cash discount terms offered by the seller determine the amount of cash discount, if any, that may be taken when an invoice is paid. Since each seller sets the percentage to be allowed as a cash discount, there are variations in the percentages used by a buyer to compute purchases discounts. Notice that the percentage differs in each of the three cases illustrated above.

Sundry Accounts Designated by Number In the above cash disbursements journal, the sundry accounts to be debited were designated by recording the account numbers, instead of the account names, in the sundry account column. Check No. 191, in the amount of $505, was sent to City Bank in payment of the maturity value of a note payable. The face of the note was $500 and the interest was $5. Account No. 172 is the Notes Payable account and Account No. 812 is the Interest Expense account. Check No. 192, in the amount of $100, was sent to Arno Realty Co. in payment of rent for the month of December—Account No. 640 is the Rent Expense account. Check No. 193, in the amount of $30, was sent to City News in payment of a bill for advertising—Account No. 502 is the Advertising Expense account.

Sundry Credit Column in Cash Disbursements Journal In recording cash disbursements transactions, many different accounts are debited. Generally, special debit columns and a sundry debit column are provided in the cash disbursements journal. In recording cash disbursements transactions, Cash and Purchases Discounts are not the only accounts that may need to be credited. General journal entries may be made in conjunction with the cash disbursements journal entries to record other credits. It is more expedient, however, to record the entire transaction in the cash disbursements journal. Some accountants record the other credits in the cash disbursements journal by entries in the *Sundry Debit* column. This may be done by writing the amount in red ink or by writing Cr. after the amount. Sundry credits in connection

with the disbursements of cash may occur several times a month. If this is the case, it is desirable to provide a *Sundry Credit* column in the cash disbursements journal. Any transaction that includes the disbursement of cash can be completely recorded in the cash disbursements journal if the journal has a sundry credit column as well as a sundry debit column. The cash disbursements journal of Arbon Corporation is illustrated below. The entries that appear in the sundry credit column of this cash disbursements journal are explained on a subsequent page of this chapter.

Use of Facing Pages in Cash Disbursements Journal Special debit columns for four of the operating expense accounts have been provided in the cash disbursements journal of Arbon Corporation, because these accounts are debited frequently in the process of recording cash disbursements transactions. When there are a number of these special debit columns for expenses, it may be impossible to provide all of the columns

ARBON CORPORATION—CASH

	Date		Payee	Check No.	Credits		Debits		
					Cash	Purchases Discounts	Accounts Payable		Freight-In
							✓	Amount	
	1960								
1	Dec.	1	John Rumney	775	6.00				
2		1	City of Arval	776	5.00				
3		1	Reed & Smith	777	196.00	4.00	✓	200.00	
4		1	Boll Desk Company	778	147.00		✓	150.00	
5		2	Arno Realty Company	779	200.00				
6		2	Myer Realty Company	780	100.00				
7		2	Star Advertising Co.	781	60.00				
8		5	City Press	782	40.00				
9		5	King Parcel Service	783	30.00				
10		6	Ormon Express, Inc.	784	28.00				28.00
11		6	Pana Railroad Co.	785	55.00				55.00
33		26	City Press	807	32.00				
34		27	Acker Provision Co.	808	35.00				
35		27	A. L. Connor Company	809	98.00	2.00	✓	100.00	
36		27	Local Delivery Co.	810	38.00				
37		27	King Parcel Service	811	32.00				
38		27	Al Jencor	812	8.00				
39		27	George Olant Co.	813	68.20	1.80	✓	90.00	
40		30	Excar Sales Company	814	104.00				
					8,244.00	32.20		5,660.00	358.00
					(102)	(405)		(221)	(407)

of the cash disbursements journal on one side of a single sheet of the journal. In such a case, two facing pages of the journal may be used as a single page.

Explanation of Sundry Credits in Cash Disbursements Journal The sundry credits that are illustrated in the cash disbursements journal of Arbon Corporation are explained below:

Line 4—Check No. 778, in the amount of $147, was sent to Boll Desk Company in payment of an invoice for office equipment. The invoice amount of $150 was recorded, on November 23, in the multi-column purchases journal as a debit to Office Equipment and a credit to Accounts Payable. At Arbon Corporation, all cash discounts taken are treated as reductions of the cost of the items acquired. The $3 discount is, therefore, entered as a credit to the Office Equipment account.

Line 39—Check No. 813, in the amount of $68.20, was sent to George Olant Company in payment of an invoice for merchandise in the amount

DISBURSEMENTS JOURNAL (Page 12)

	Debits				Sundry			
	Advertising	Delivery Expenses	Misc. Selling Expenses	Misc. General Expenses	Account	Ref.	Debit	Credit
1			4.00	2.00				
2				5.00				
3								
4					Office equipment	164		3.00
5					Store rent	560	200.00	
6					Office rent	660	100.00	
7	60.00							
8	40.00							
9		30.00						
10								
11								
33	32.00							
34			25.00	10.00				
35								
36		38.00						
37		32.00						
38			6.00	2.00				
39					Accounts receivable	112/✓		20.00
40					Commissions	514	104.00	
	392.00	334.00	99.20	67.00			1,411.00	45.00
	(506)	(522)	(594)	(694)				

of $90. A cash discount was taken and the past due account receivable from George Olant Company was deducted from the amount owed to the creditor. The transaction may be summarized as follows:

Invoice from George Olant Company for merchandise	$90.00
Cash discount taken—2% of $90	1.80
Net amount	$88.20
Offset past due account receivable	20.00
Amount of Check No. 813	$68.20

Many of the creditors of Arbon Corporation are also customers. An account receivable is offset against the amount owed to a creditor only if the account receivable is past due. The accounts receivable department supplies current data to the accounts payable department in regard to all past due accounts receivable.

ARBON CORPORATION—CASH

	Date		Payee	Check No.	Credits		Debits		
					Cash	Purchases Discounts	Accounts Payable		Freight-In
							✓	Amount	
	1960								
1	Dec.	1	John Rumney	775	6.00				
2		1	City of Arval	776	5.00				
3		1	Reed & Smith	777	196.00	4.00	✓	200.00	
4		1	Boll Desk Company	778	147.00		✓	150.00	
5		2	Arno Realty Company	779	200.00				
6		2	Myer Realty Company	780	100.00				
7		2	Star Advertising Co.	781	60.00				
8		5	City Press	782	40.00				
9		5	King Parcel Service	783	30.00				
10		6	Ormon Express, Inc.	784	28.00				28.00
11		6	Pana Railroad Co.	785	55.00				55.00
33		26	City Press	807	32.00				
34		27	Acker Provision Co.	808	35.00				
35		27	A. L. Connor Company	809	98.00	2.00	✓	100.00	
36		27	Local Delivery Co.	810	38.00				
37		27	King Parcel Service	811	32.00				
38		27	Al Jencor	812	8.00				
39		27	George Olant Co.	813	68.20	1.80	✓	90.00	
40		30	Excar Sales Company	814	104.00				
					8,244.00	32.20		5,660.00	358.00
					(102)	(405)		(221)	(407)

Expense Control Accounts

The control accounts and subsidiary ledgers for accounts receivable and accounts payable were illustrated and discussed in Chapters 4 and 5. Other control accounts with subsidiary ledgers may be maintained. The procedures involved are similar to those used in recording accounts receivable and accounts payable.

If there are a large number of selling expense accounts, it may be desirable to maintain these accounts in a subsidiary ledger and to record the total selling expenses in a control account in the general ledger. If there are a large number of general expense accounts, it may be desirable to maintain these accounts in a subsidiary ledger and to record the total general expenses in a control account in the general ledger.

DISBURSEMENTS JOURNAL (Page 12)

	Debits						Sundry			
	Selling Expenses			General Expenses						
	Acct.	✓	Amount	Acct.	✓	Amount	Account	Ref.	Debit	Credit
1	594	✓	4.00	694	✓	2.00				
2				694	✓	5.00				
3										
4							Office equipment	164		3.00
5	560	✓	200.00							
6				660	✓	100.00				
7	506	✓	60.00							
8	506	✓	40.00							
9	522	✓	30.00							
10										
11										
33	506	✓	32.00							
34	594	✓	25.00	694	✓	10.00				
35										
36	522	✓	38.00							
37	522	✓	32.00							
38	594	✓	6.00	694	✓	2.00				
39							Accounts receivable	112/✓		20.00
40	514	✓	104.00							
			1,499.20			657.00			147.00	45.00
			(500)			(600)				

When a Selling Expenses control account and a General Expenses control account are used, columns are provided for each of these control accounts in the journal in which these expenses are recorded. The need for a number of special debit columns for expenses in the cash disbursements journal is eliminated when these expense control accounts are used. Thus, the cash disbursements journal may be simplified. The cash disbursements journal of Arbon Corporation for the month of December, 1960, is shown below as it might appear if the corporation maintained control accounts for selling expenses and general expenses.

The total of the Selling Expenses column is debited to the control account in the general ledger, and the individual items are posted to the selling expense accounts in the subsidiary ledger. The total of the General Expenses column is debited to the control account in the general ledger and the individual items are posted to the general expense accounts in the subsidiary ledger. Notice that the subsidiary ledger accounts are designated by number rather than by name. The check marks in the reference columns indicate that the items have been posted to the subsidiary ledger accounts.

The expense control accounts and the subsidiary ledgers will contain items other than those that are posted from the cash disbursements journal. For example, many adjusting entries may affect the expense accounts. The adjusting entries are, of course, posted from the general journal.

Expense Distribution Sheet Each expense account in a subsidiary ledger may be recorded on an ordinary general ledger account form. Sometimes, however, an expense distribution sheet is used as a subsidiary ledger. A column is provided for each expense account and the complete subsidiary ledger may appear on one page. A portion of an expense distribution sheet for selling expenses is shown below.

Arbon Corporation — Distribution of Selling Expenses — Acct. #500

Date	(01) Salaries		(06) Advertising		(14) Commissions		(22) Delivery		Total
	Ref.	Amount	Ref.	Amount	Ref.	Amount	Ref.	Amount	
Nov. 30		6,600.00		2,100.00		2,080.00		2,640.00	19,640.00
Dec.	#790	300.00	#781	60.00	#814	104.00	#783	30.00	
	J-12	300.00	#782	40.00	J-12	100.00	#786	80.00	
			#788	158.00			#792	154.00	
			#801	102.00			#810	38.00	
			#807	32.00			#811	32.00	
Dec. 31		7,200.00		2,492.00		2,284.00		2,974.00	21,875.00

The totals that appear at November 30 are the cumulative totals for the first eleven months of the year. At December 31, the balance of the Selling Expenses account in the general ledger is $21,875. The items that were posted from the cash disbursements journal are identified by check number instead of page number. Within each column, items are entered in chronological order, but the days of the month are not shown.

QUESTIONS

1. What determines the particular special journals that are used by an enterprise?
2. What determines the particular special credit columns that are provided in a cash receipts journal?
3. At N Enterprise, all receipts of cash are from debtors in payment of account. How many amount columns should be provided in the cash receipts journal: (a) If no cash discounts are allowed? (b) If cash discounts are allowed?
4. Why may a multi-column sales journal be desirable instead of a sales journal with a single-amount column?
5. Why may a multi-column purchases journal be desirable instead of a purchases journal with a single-amount column?
6. In some cases, may two or more lines be needed to record a transaction in a special journal?
7. Why are unpaid invoices commonly filed according to the date on which payment is to be made?
8. In regard to each of the transactions listed below, indicate the name of the account for which an entry would be made in the *Sundry Debit* column of the cash receipts journal.
   (a) Collection of a sale on account, less an amount owed to the debtor.
   (b) Collection of a sight draft, less collection charge.
   (c) Discounting of a note payable.
   (d) Discounting of a note receivable; the bank's discount charge is greater than the total interest on the note.
   (e) Collection of a sale on account, freight charges deducted by the customer.
9. In regard to each of the transactions listed below, indicate the name of the account for which an entry would be made in the *Sundry Credit* column of the cash disbursements journal. (a) Payment of an invoice for office equipment, less cash discount. The gross amount of the invoice has been recorded as an account payable. (b) Payment of an invoice for a purchase of merchandise on account, less an amount owed to us by the vendor.
10. What are the advantages of using an expense distribution sheet rather than individual account forms for a subsidiary expense ledger?

PROBLEMS

Problem 13-1

The special journals listed below are used by Bonne Corporation:
(1) A sales journal having one debit column and three credit columns.
(2) A purchases journal having one credit column and five debit columns.
(3) A cash receipts journal having two debit columns and four credit columns.
(4) A cash disbursements journal having three credit columns (including a sundry credit column) and four debit columns (including a sundry debit column).

Expense control accounts are not used.

All sales on account made by Bonne Corporation have the following terms: 1/10, n/30. The cash discount of 1% does not apply to the charges for sales taxes.

The freight charges on merchandise purchased from Scott & Son and Arcon, Inc., are prepaid by the vendors. The invoices from these vendors include the prepaid freight charges because the freight terms are "F.O.B. Shipping Point." There are very few payments of freight charges on incoming shipments from other vendors, and a special column for Freight-In is not provided in the cash disbursements journal.

The transactions that are recorded in the special journals for the month of November, 1960, are as follows:

1960
Nov. 1—Sold merchandise on account to L. R. Asher, Invoice #740, $90 plus 3% sales taxes.
1—Sold merchandise on account to Rogan Box Co., Invoice #741, $400 tax exempt.
1—Received cash from Forbes & Reed in partial payment of past due account, $100.
1—Issued Check #907 to Jay Realty Co. for November store rent, $200.
1—Issued Check #908 to Rolline, Inc. for November office rent, $100.
2—Issued Check #909 to Daily News for advertising, $40.
3—Issued Check #910 to Barr & Irwin for invoice of October 27, $200 less 1% cash discount. The invoice, for merchandise, was recorded in the purchases journal on October 28.
4—Purchased merchandise on account from Scott & Son, Invoice of November 1, $800 plus freight charges of $50; terms: 1/10, n/30.
4—Sold merchandise on account to J. R. Bailey, Invoice #742, $40 plus 3% sales taxes.
4—Purchased office equipment on account from Reed Equipment Co., Invoice of November 1, $100; terms: 30 days net.
4—Issued Check #911 to Kay Parcel Service for parcel deliveries, $25.
4—Cash sales, $50 plus 3% sales taxes.
4—Received cash from R. K. Jones for the maturity value of a $600, 5%, 60-day note receivable that is due today. R. K. Jones is the maker of the note.

1960

Nov. 7—Purchased supplies on account from Holm Supply Co., Invoice of November 4, $60; terms: 30 days net. The charges are as follows: store supplies, $40; office supplies, $20.

7—Issued Check #912 to Scott & Son in payment of Invoice of November 1.

8—Purchased merchandise on account from Arcon, Inc., Invoice of November 4, $200 plus freight charges of $18; terms: 2/10, n/30.

8—Issued Check #913 to Local Delivery Co. for parcel deliveries, $30.

8—Sold merchandise on account to Robley & Smith, Invoice #743, $420 tax exempt.

9—Purchased merchandise on account from Moller Company, Invoice of November 8, $120; terms: 2/10, n/30.

10—Purchased store equipment from Carnes Company, Invoice of November 9, $150; terms: 2/10, n/30.

10—Issued Check #914 to Daily News for advertising, $30.

10—Issued Check #915 to Para Truck Lines for freight-in, $32.

10—Cash sales, $60 plus 3% sales taxes.

10—Received cash from Rogan Box Co. in payment of Invoice #741.

14—Issued Check #916 to Parck Supply Co. in payment of Invoice of October 15, $40. This invoice was entered in the purchases journal on October 17. The terms were as follows: 30 days net.

14—Sold merchandise on account to Mantor Company, Invoice #744, $800 tax exempt.

14—Received cash from J. R. Bailey in payment of Invoice #742.

15—Purchased store supplies on account from Rand Supply Co., Invoice of November 14, $30; terms: 30 days net.

16—Issued Check #917 to City Press for advertising, $45.

17—Purchased office supplies on account from Fenton Supply Co., Invoice of November 16, $36; terms: 30 days net.

17—Sold merchandise on account to P. R. Rogers, Invoice #745, $50 plus 3% sales taxes.

17—Issued Check #918 to Moller Company in payment of Invoice of November 8, less offset of $30 past due account receivable from Moller Company. The amount of the check is $87.60.

18—Cash sales, $40 plus 3% sales taxes.

18—Issued Check #919 to Carnes Company in payment of Invoice of November 9.

21—Issued Check #920 to Arcon, Inc., in payment of Invoice of November 4.

22—Issued Check #921 to Kay Parcel Service for parcel deliveries, $28.

22—Sold merchandise on account to L. R. Asher, Invoice #746, $70 plus 3% sales taxes.

23—Issued Check #922 to Sargon Ad Co. for advertising, $50.

23—Purchased merchandise on account from Scott & Son, Invoice of November 22, $360 plus freight charges of $24; terms: 1/10, n/30.

23—Received cash from Mantor Company in payment of Invoice #744.

25—Cash sales, $30 plus 3% sales taxes.

25—Received cash from P. R. Rogers in payment of Invoice #745.

28—Purchased merchandise on account from Arcon, Inc., Invoice of November 25, $160 plus freight charges of $15; terms: 2/10, n/30.

28—Received cash from Robley & Smith in payment of Invoice #743.

29—Issued Check #923 to Local Delivery Co. for parcel deliveries, $20.

1960

Nov. 29—Purchased supplies on account from Holm Supply Co., Invoice of November 28, $65; terms: 30 days net. The charges are as follows: store supplies, $35; office supplies, $30.

30—Sold merchandise on account to Portor, Inc., Invoice #747, $850 tax exempt.

30—Issued Check #924 to Clark Mullar for November salary, $500 (no payroll deductions).

30—Issued Check #925 to City of Frant for sales taxes charged to customers during October, $15.

Required:

Review the transactions carefully to determine the columns needed in each special journal. Set up each special journal on a separate page and record the transactions. Foot all columns of each special journal and crossfoot the totals. In the cash receipts journal, use the column headings shown below.

Cash Receipts Journal

Date	Received from	Debits		Credits						
		?	?	Accounts Receivable		Sales	?	Sundry		
				✓	Amount			Account	Ref.	Amount

Replace each (?) with the proper caption.

Problem 13-2

The special journals of The Corliff Company are described below:

(1) The sales journal has one debit column—Accounts Receivable.
The sales journal has two credit columns—Sales and Freight-Out.

(2) The purchases journal has one credit column—Accounts Payable.
The purchases journal has four debit columns—Purchases, Store Supplies, Office Supplies, and Sundry.

(3) The cash receipts journal has three debit columns—Cash, Sales Discounts, and Sundry.
The cash receipts journal has three credit columns—Accounts Receivable, Sales, and Sundry.

(4) The cash disbursements journal has three credit columns—Cash, Purchases Discounts, and Sundry.
The cash disbursements journal has five debit columns—Accounts Payable, Freight-In, Selling Expenses, General Expenses, and Sundry.

The transactions of The Corliff Company during the first five days of December, 1960, are listed below:

1960

Dec. 1—Issued Check #2,174 to Manos Truck Lines for freight charges on outgoing shipments, $60. All freight charges on outgoing shipments are debited to Freight-Out (Account #523) at the time of payment.

1—Issued Check #2,175 to Venus Rental Co. for December rent, $400.

1960

The bill includes a charge for store rent (Account #560) of $300 and a charge for office rent (Account #660) of $100.

Dec. 1—Discounted our $2,000, 30-day note payable at First National Bank. The bank's discount rate is 6%.

2—Sold merchandise on account to Vanders, Inc., Invoice #1,078, $300 plus freight charges of $24; terms: 2/10, n/30; F.O.B. Shipping Point. The freight charges were prepaid by The Corliff Company on December 1.

2—Purchased on account from Star Paper Co., Invoice of December 1, the following: merchandise, $600; store supplies, $100. Terms are as follows: 1/10, n/30.

2—Issued Check #2,176 to Barr Truck Lines for freight on incoming shipments as follows: freight on merchandise, $24; freight on store supplies, $4.

2—Purchased office equipment on account from Dale & Rider, Invoice of December 1, $250; terms: 2/10, n/30.

5—Discounted at First National Bank, a $1,000, 6%, 60-day note receivable that was received from Roy Smitt, a customer, on November 23. The bank's discount rate is 6%.

5—Issued Credit Memo #23 to L. N. Blake for defective merchandise, $10.

5—Issued Check #2,177 to Dale & Rider in payment of Invoice of December 1.

5—Received cash from Vanders, Inc. in payment of Invoice #1,078.

5—Issued Check #2,178 to First National Bank in payment of our $1,000, 6%, 30-day note payable that fell due today.

Required:

Set up the special journals and the general journal of The Corliff Company and record the above transactions.

SUPPLEMENTARY PROBLEMS

Problem 13-3

The special journals listed below are used by Torbes Company:

(1) A sales journal having one debit column and three credit columns.
(2) A purchases journal having one credit column and five debit columns.
(3) A cash receipts journal having two debit columns and four credit columns.
(4) A cash disbursements journal having three credit columns (including a sundry credit column) and four debit columns (including a sundry debit column).

Expense control accounts are not used.

All sales on account made by Torbes Company have the following terms: 2/10, n/30. The cash discount of 2% does not apply to the charges for sales taxes.

The freight terms on all purchases of merchandise are "F.O.B. Shipping Point." The freight charges on merchandise purchased from Pacen Company and Tarr & Ange are prepaid by the vendors. The invoices from these vendors include the prepaid freight charges.

The transactions that are recorded in the special journals for the month of November, 1963, are as follows:

1963

Nov. 1—Issued Check #826 to Rox Properties for November store rent, $250.

1—Issued Check #827 to Farre Realty Co. for November office rent, $140.

4—Purchased merchandise on account from Pacen Company, Invoice of November 1, $540 plus freight charges of $20; terms: 1/10, n/30.

4—Purchased merchandise on account from Tarr & Ange, Invoice of November 1, $770 plus freight charges of $52; terms: 1½/10, n/30.

4—Sold merchandise on account to Bollen Company, Invoice #667, $450 tax exempt.

5—Issued Check #828 to XXX Truck Company for freight-in, $34.

5—Issued Check #829 to Delux Delivery Service for parcel deliveries, $28.

6—Purchased merchandise on account from Maskert Company, Invoice of November 4; terms: 1/10, n/30. List price $100; trade discounts, 40%–20%–10%.

6—Sold merchandise on account to K. M. Rodek, Invoice #668, $66 plus 3% sales taxes.

6—Received cash from Genar Band Corporation in partial payment of past due account, $100.

7—Cash sales, $54 plus 3% sales taxes.

7—Issued Check #830 to Smorr Brothers for Invoice of October 30, $300 less 1% cash discount. The invoice, for merchandise, was recorded in the purchases journal on October 31.

8—Issued Check #831 to Regg & Sley for advertising, $135.

8—Purchased supplies on account from Woody Supply Co., Invoice of November 5, $65; terms, 30 days net. The charges are as follows: store supplies, $35; office supplies, $30.

11—Issued Check #832 to Dager Parcel Service for parcel deliveries, $33.

11—Purchased store equipment on account from Hopert Equipment Co., Invoice of November 7, $140; terms, 30 days net.

11—Sold merchandise on account to Sonner Mills, Inc., Invoice #669, $440 tax exempt.

11—Sold merchandise on account to M. Z. Cruff, Invoice #670, $70 plus 3% sales taxes.

11—Issued Check #833 to Pacen Company in payment of Invoice of November 1.

11—Issued Check #834 to Tarr & Ange in payment of Invoice of November 1.

12—Issued Check #835 to Corra Truck Lines for freight charges on incoming merchandise and equipment, $50. The charges are as follows: on store equipment, $20; on merchandise, $30.

13—Received cash from Ricon Company in payment of Invoice #658, $500. This invoice was recorded in the October sales journal.

13—Received cash from Bollen Company in payment of Invoice #667.

13—Sold merchandise on account to Pastol Company, Invoice #671, $850 tax exempt.

13—Received cash from S. T. Stepp for the maturity value of a $720,

1963

7%, 90-day note receivable that is due today. Stepp is the maker of the note.

Nov. 14—Cash sales, $90 plus 3% sales taxes.

15—Received cash from K. M. Rodek in payment of Invoice #668.

15—Purchased store supplies on account from Fantor Supply Co., Invoice of November 14, $36; terms, 30 days net.

18—Purchased merchandise on account from Mexar Corporation, Invoice of November 14, $90; terms: 1/20, n/30.

18—Purchased office equipment on account from Jordo Desk Company, Invoice of November 15, $80; terms, net 30 days.

19—Issued Check #836 to XXX Truck Company for freight-in, $45.

19—Issued Check #837 to Delux Delivery Service for parcel deliveries, $35.

19—Issued Check, #838 to Fantor Supply Co. in payment of Invoice of October 21. This invoice was entered in the purchases journal on October 18. The terms were as follows: 30 days net. The amount of the invoice is $60.

20—Sold merchandise on account to K. M. Rodek, Invoice #672, $72 plus 3% sales taxes.

20—Received cash from Sonner Mills, Inc., in payment of Invoice #669.

21—Purchased merchandise on account from Pacen Company, Invoice of November 19, $260 plus freight charges of $15; terms: 1/10, n/30.

21—Cash sales $110 plus 3% sales taxes.

22—Purchased supplies on account from Woody Supply Co., Invoice of November 20, $60; terms, 30 days net. The charges are as follows: store supplies, $42; office supplies, $18.

25—Purchased merchandise on account from Tarr & Angc, Invoice of November 22, $380 plus freight charges of $36; terms: 1½/10, n/30.

25—Issued Check #839 to Ralph Minoro for miscellaneous selling expenses, $42.

25—Issued Check #840 to Corra Truck Lines for freight-in, $44.

25—Received cash from Pastol Company in payment of Invoice #671. The check of Pastol Company was dated November 23 and the cash discount had been deducted. Credit is given for the full amount of the invoice.

26—Sold merchandise on account to Pastol Company, Invoice #673, $900 tax exempt.

27—Sold merchandise on account to Bollen Company, Invoice #674, $540 tax exempt.

27—Sold merchandise on account to B. R. Aylor, Invoice #675, $115 plus 3% sales taxes.

28—Issued Check #841 to David Banmor for miscellaneous general expenses, $35.

28—Received cash from M. Z. Cruff in payment of Invoice #670.

28—Cash sales, $56 plus 3% sales taxes.

28—Issued Check #842 to David Banmor for November salary, $500 (no payroll deductions).

28—Issued Check #843 to Ralph Minoro for November salary, $500 (no payroll deductions).

28—Issued Check #844 to Corra Truck Lines for freight-in, $37.

1963

Nov. 28—Issued Check #845 to Dager Parcel Service for parcel deliveries, $33.

28—Issued Check #846 to City of Ponta for sales taxes charged to customers during October, $27.

29—Issued Check #847 to Mexar Corporation in payment of Invoice of November 14, less offset of $30 past due account receivable from Mexar Corporation. The amount of the check is $59.10.

29—Issued Check #848 to Pacen Company in payment of Invoice of November 19.

29—Purchased supplies on account from Fantor Supply Co., Invoice of November 28, $50; terms, 30 days net. The charges are as follows: store supplies, $30; office supplies, $20.

Required:

Review the transactions carefully to determine the columns needed in each special journal. Set up each special journal on a separate page and record the transactions. Foot all columns of each special journal and crossfoot the totals. (Forms 15, 16, 17, 19)

Problem 13-4

The special journals of The Laden Company are described below:

(1) The sales journal has one debit column—Accounts Receivable.
The sales journal has two credit columns—Sales and Freight-Out.

(2) The purchases journal has one credit column—Accounts Payable.
The purchases journal has four debit columns—Purchases, Store Supplies, Office Supplies, and Sundry.

(3) The cash receipts journal has three debit columns—Cash, Sales Discounts, and Sundry.
The cash receipts journal has three credit columns—Accounts Receivable, Sales, and Sundry.

(4) The cash disbursements journal has three credit columns—Cash, Purchases Discounts, and Sundry.
The cash disbursements journal has five debit columns—Accounts Payable, Freight-In, Selling Expenses, General Expenses, and Sundry.

In the income statement, sales discounts are shown as deductions from sales and purchases discounts are shown as deductions from purchases.

The transactions of The Laden Company during the ten days of December, 1963, are listed below:

1963

Dec. 2—Issued Check #1,201 to Fox Rental Co. for December rent, $480. The bill includes a charge for store rent (Account #566) of $320 and a charge for office rent (Account # 666) of $160.

2—Issued Check #1,202 to Lowe Truck Lines for freight charges on outgoing shipments, $75. All freight charges on outgoing shipments are debited to Freight-Out (Account #526) at the time of payment.

3—Purchased on account from Elk & Stone, Invoice of December 2, the following: merchandise, $800; store supplies, $100. Terms are as follows: 1/10, n/30.

3—Sold merchandise on account to Ralett Company, Invoice #1,334, $400 plus freight charges of $25; terms: 2/10, n/30; F.O.B. Ship-

1963

ping Point. The freight charges were prepaid by The Laden Company on December 2.

Dec. 3—Issued Check #1,203 to Bear Truck Lines for freight on incoming shipments as follows: freight on merchandise, $30; freight on store supplies, $6.

3—Received a check from Scover Company in payment of our Invoice #1,330, $588. The invoice was recorded in the November sales journal on November 28. The cash discount of 2% had been deducted properly by the customer, and the check for $588 pays Invoice #1,330 in full.

3—Purchased office equipment on account from Frye Desk Co., Invoice of December 2, $200; terms: 1/10, n/30.

4—Issued Credit Memo #21 to R. S. Brady for defective merchandise, $12.

5—Issued Check #1,204 to First State Bank in payment of our $1,000, 7%, 45-day note payable that fell due today.

6—Discounted our $1,200, 30-day note payable at First State Bank. The bank's discount rate is 6½%.

6—Discounted at First State Bank, a $1,000, 6%, 60-day note receivable that was received from L. L. Raver, a customer, on November 24. The bank's discount rate is 6½%.

9—Issued Check #1,205 to Elk & Stone in payment of Invoice of December 2.

10—Received a check from Ralett Company in payment of Invoice #1,334, less $120 that The Laden Company owed to Ralett Company. The Ralett Company does not offer cash discounts.

Required:

Set up the special journals and the general journal of The Laden Company and record the above transactions. (Forms 20, 21)

14

The Control of Disbursements

Nature of Disbursements

The term "disbursement" refers to an expenditure involving a cash outlay. A cash outlay, or payment, usually takes the form of coin, currency, or bank check. In most business concerns, a disbursement in the form of coin or currency is restricted to small amounts for limited purposes. The procedures for controlling disbursements of this type are described in Chapter 16 under the heading, "Petty Cash Fund." A disbursement in the form of a bank check, however, may be made for many purposes, such as: (1) the purchase of goods and services, (2) the payment of liabilities, (3) the return to the owners of a share of the profits of an enterprise, (4) the making of a loan, (5) the granting of a gift, (6) the return of an investment to the owners or stockholders.

Internal Control of Disbursements

Because most business transactions are negotiated by means of credit in which the bank check is the customary medium of exchange, and because there are many checks written, even in a small business, it is essential that an effective system of internal control be established for check disbursements. The following procedures are essential for an efficient functioning of a system of internal control of disbursements by checks. Some of these procedures are also applicable to disbursement by coin and currency.

1. Proper verification of the receipt of goods and services.
2. Proper authorization of the disbursement.
3. Prompt payment of the invoice received in order to maintain de-

sirable credit relations and to take advantage of cash discounts offered by creditors.

4. Correct classification of the disbursement for accounting purposes. This refers to the identification of the disbursement as a debit to the proper real or nominal account.

5. The design and preparation of a sufficient number of copies of forms best suited to an efficient division of labor required to carry out the disbursing function.

6. The design of accounting records adequate to meet the needs of the organization for prompt and complete financial information not only before, but after, a disbursement is made.

7. Frequent reconciliation of the disbursements recorded on the books of account with the withdrawals recorded by the depository bank. This procedure is described in detail in Chapter 16 under the heading, "Reconciling the Bank Account."

Accounting for Disbursements

As explained in the preceding paragraph, suitably designed and properly prepared forms and accounting records are essential in controlling disbursements. However, there are many variations in these forms and accounting records depending upon: (1) the size and complexity of the business operation, (2) the nature of the business, such as a service, trading, or manufacturing activity, and (3) management's need for accounting information in terms of the frequency that financial statements and reports are called for and the amount of detail contained in the reports. There are four common methods followed by business concerns in accounting for disbursements.

Method 1: The cash basis method is described on page 147 in contrast with the accrual basis of accounting. When the cash basis is employed, an expenditure is recorded only at the time of the payment of a creditor's invoice. It is simple and direct but incomplete, because it fails to record the liabilities for goods and services when they are received. A check book and cash journal is all that is required under this method. A subsidiary accounts payable ledger is not kept; only a file of unpaid invoices provides management with information as to the extent of its liabilities to trade creditors. The accrual basis of accounting, when related to disbursements, on the other hand, is effective if all unpaid invoices and bills as well as accrued liabilities are entered by adjusting entries at the end of the accounting period, even though a "cash basis" has been used during the period. However, due consideration to the volume of adjusting entries required to adjust the records and financial statements tends to restrict this approach to small business organizations.

Method 2: The entry of invoices for merchandise bought for resale into a purchases journal, as illustrated on page 84, followed by a check drawn in payment and an entry in a cash disbursements journal, as illustrated on page 86. This method overcomes the principal deficiency of Method 1 because liabilities to trade creditors are recorded as they are incurred. However, invoices for supplies and fixed assets, bills for services, and other accrued liabilities must still be recorded by adjusting entries at the end of the accounting period. A subsidiary accounts payable ledger is kept under this method.

Method 3: The entry of all incoming invoices, not only for goods to be resold, but for supplies and fixed assets as well, in a multi-column purchases journal (illustrated on page 274). The invoices are not entered in this type of journal in any predetermined order, although they may be sorted periodically during the month in alphabetical order before entry in the multi-column purchases journal. As in the case of Methods 1 and 2, adjusting entries for unpaid expense bills and accrued liabilities must be entered at the end of the fiscal period. Under this method, an accounts payable subsidiary ledger is maintained.

Method 4: The Voucher System (discussion of which follows).

The Voucher System

Its Nature and Purpose The word "voucher" is derived from the verb "to vouch," which is defined as bearing witness to the truth or accuracy of a statement. A voucher system, therefore, is a system designed for the purpose of authorizing and disbursing funds accurately and honestly. Widely used by business concerns, this system is particularly applicable to the needs of large enterprises. In these enterprises, the volume of clerical and bookkeeping detail is so large that a considerable number of a concern's personnel is engaged in performing these activities. Consequently, a system is needed to control the variety of disbursements in a formal manner. To achieve this result, the numerous and varied procedures affecting disbursements are organized into a routine, thereby permitting management to devote more time to solving more complicated accounting problems.

The voucher system differs from the other systems or methods of controlling disbursements in that: (1) It requires the vouchering and entering of *all* invoices and bills for goods and services, payments of loans, purchases of fixed assets, etc., before a disbursement can be made; in short, a disbursement cannot be made until it is first entered as an account payable. (2) The accounts payable subsidiary ledger is eliminated under this system, and a file of approved, unpaid vouchers is substituted for a bookkeeping account for each creditor. (3) By placing

emphasis upon the verification of each and every charge at the time it enters into the stream of daily transactions, the accuracy and validity of the accounts payable is made a matter of daily routine.

Operation The broad, general outlines, or what could be termed the essential features, of the voucher system are set forth in the following paragraphs. Sufficient details are added so as to permit this outline to serve as the framework for a specific system.

1. The voucher system begins to operate at the time an invoice or bill is received from a creditor, or whenever a disbursement is required. It is to be understood that prior to this time, the purchases routine (described in Chapter 12) is complete to the point that the goods or services that have been ordered have been received and a liability created.

2. At this point, a voucher clerk prepares a voucher, sometimes referred to as a voucher jacket. The following are the essential items of information that are to be found on the voucher jacket illustrated on page 300.

(a) It is a pre-numbered form.

(b) Space is provided for the details of the purchase, viz., the date, quantity, price, extension, purchase order number, and name and address of the vendor.

(c) In order to show evidence that the documents supporting the voucher have been checked, space is provided for the initials of those who have prepared and verified the voucher.

(d) The voucher is indexed to the accounting records by notation of the page of the journal (called a voucher register) and the check number used in payment.

(e) It is signed by a responsible official who thereby authorizes payment.

(f) The account numbers and names (or sometimes only the account numbers) of the accounts most frequently debited are usually preprinted on the form.

3. After the voucher (reference to the term voucher throughout this book is meant to include the voucher jacket and the supporting documents) is completed, the voucher clerk staples the supporting documents inside the jacket and passes it on to a bookkeeper for entry into a voucher register.

4. The voucher is entered in the voucher register in numerical order. Attention is directed to the form and content of the voucher register illustrated on page 301. While practice varies as to the order of the columns and column headings, every voucher register should provide for: (a) the date of entry, (b) the voucher number, (c) the creditor's name, (d) the terms of purchase, (e) the payment, date, and check number, (f) a money column for the amount of each voucher, the

Voucher No. 1
Date 1/2/61

THE HULL COMPANY

Vendor Extron Corp.
Name
515 Main Street
Address
Columbus, Ohio
Date payable January 10, 1961
Paid by 5 1/10/61
Check No. Date

P.O. No.	Accounts Debited		
	Title	No.	Amount
75	Purchases	302	875.00
	Freight-In	304	18.75
75	Samples	505	125.00
		Total	1018.75
		Deduct: Discount	
Terms	2/10, n/30		20.00
		Net Payable	998.75

Quantity checked F.G.
Prices checked K.M.
Extensions checked K.M.
Entered in Register A.M.S.
Approved for payment
Paul Stuart

total being a credit to the Accounts Payable control account, (g) space for a brief explanation of the transactions, and (h) columns to be debited for various classes of charges, depending upon the frequency of the charge.

In the voucher register illustrated, columns are also provided for both sundry debit and credit entries to make the voucher register more flexible as a book of original entry.

5. Following the entry of the voucher in a register, it is filed temporarily in a tickler file. The order of filing varies with companies. A

THE HULL COMPANY

Voucher Register, page 12 — Month of December, 1960 — Left-hand page

(a) Date 1960	(b) Voucher Number	(c) Creditor	(d) Terms	(e) Payment Date	(e) Payment Check, Ref. No.	(f) Accounts Payable Cr.	(g) Purchases Dr.
Dec. 31	75	Director Internal Revenue		1/2/61	1	10,600.00	
31	76	State Tax Commission		1/2/61	2	4,800.00	
31	77	Fortine, Inc.	3/10, n/30	1/2/61	3	600.00	600.00
31	78	J. Smythe	Cash	1/2/61	4	1,000.00	
						135,375.00	108,300.00
						(221)	(302)

THE HULL COMPANY

Voucher Register, page 12 — Month of December, 1960 — Right-hand page

(g1) Freight-In Dr.	(g2) Selling Expense Ref.	(g3) Selling Expense Dr.	(g4) Administrative Expense Ref.	(g5) Administrative Expense Dr.	(g6) Sundry Accounts Ref.	(g6) Sundry Accounts Dr.	(g7) Sundry Accounts Cr.	(h) Explanation
					220 ✓	10,600.00		Federal income tax
			620	4,800.00				State Franchise tax
			615	1,000.00				Merchandise purchases
								Legal fees
500.00		1,500.00		10,025.00		15,050.00		
(304)		(500)		(600)		(✓)		

THE HULL COMPANY

Voucher Register, page 1 — Month of January, 1961

Date 1961	Voucher Number	Creditor	Terms	Payment Date	Payment Check, Ref. No.	Accounts Payable Cr.	Purchases Dr.
Jan. 2	1	Extron Corp.	2/10, n/30	1/10/61	5	1,018.75	875.00
3	2	Merch Inc.	n/30			600.00	
10	3	National Bank	30 day note	1/10/61	6	2,010.00	
10	3	National Bank	6% interest	1/10/61	6	—	
11	4	Gervase Company	n/30			2,000.00	2,000.00
11	5	Gervase Company	n/60			2,000.00	2,000.00
11	6	Gervase Company	n/90			2,000.00	2,000.00
15	(1)	Extron Corp.	return mdse.		DM 1	(100.00)	
26	7	Business Supply Inc.	Cash	1/26/61	7	14.25	
31	—	Sharp Development Co.	6 mo. note				
31	8	Sharp Development Co.	30 days			5,000.00	
						14,543.00	6,875.00
						(221)	(302)

THE HULL COMPANY

Voucher Register, page 1 — Month of January, 1961

Freight-In	Selling Expense		Administrative Expense		Sundry Accounts			Explanation
Dr.	Ref.	Dr.	Ref.	Dr.	Ref.	Dr.	Cr.	
18.75	505	125.00						Merchandise and samples purchases
					145 ✓	600.00		Property and liability insurance premium
					205 ✓	2,000.00		December 11, 1960 note
			609	3.33	206 ✓	6.67		Accrued interest to 12/31/60; interest 10 day
								Merchandise purchased
								Merchandise purchased
								Merchandise purchased
	505	(100.00)						Samples returned, damaged
			610	14.25				Office supplies purchased
					150 ✓	20,000.00		Investment in land
					205 ✓		15,000.00	Note due in 6 months
18.75		25.00		17.58		22,606.67	15,000.00	
(304)		(500)		(600)		(✓)	(✓)	

common order is to file by the date due, then alphabetically by creditor under each date due. Some companies include more than one invoice on a single voucher; and some pay more than one voucher with a single check. This illustration assumes that there is only one invoice to a voucher and only one voucher to a check.

6. Each day a clerk removes those vouchers that are due for payment from the temporary file and turns them over to a cashier for preparation of the checks. An entry is made in a check register for each check drawn in the manner illustrated below. This check register performs the same bookkeeping function as the cash disbursements journal illustrated on page 280. The principal difference is that each entry in the check register is a payment of a voucher and is therefore a debit to Accounts Payable. No other debit columns appear in the check register. A cash disbursements journal, on the other hand, has columns in which debits to various other accounts, as well as Accounts Payable, are recorded.

7. The voucher and check are next forwarded to a responsible official who is charged with the responsibility of signing checks.

8. Finally, the voucher is stamped or marked paid. The date and check number are noted on the voucher and recorded in the voucher register in the column provided for that purpose. This last step in the

THE HULL COMPANY

Check Register, page 1 — Month of January, 1961

(a)	(b)	(c)	(d)	(e)	(f)	(g)
		Payment				
Date	Paid To	Check No.	Voucher	Bank	Purchases Discount	Accounts Payable
1961				Cr.	Cr.	Dr.
Jan. 2	Director Internal Revenue	1	75	10,600.00		10,600.00
2	State Tax Commission	2	76	4,800.00		4,800.00
2	Fortine, Inc.	3	77	582.00	18.00	600.00
2	J. Smythe	4	78	1,000.00		1,000.00
10	Extron Corp.	5	1	998.75	20.00	1,018.75
10	National Bank	6	3	2,010.00		2,010.00
26	Business Supply Inc.	7	7	14.25		14.25
				20,005.00	38.00	20,043.00
				(102)	(705)	(221)

bookkeeping procedure is important. If the voucher register is not cross-indexed to the check register in this manner, an important element of control is lost. Furthermore, the voucher register is not only a register of all vouchers drawn, it is a register schedule of the unpaid vouchers. A listing of these unpaid vouchers comprises the accounts payable detail at the end of the month.

9. Finally, the paid voucher is returned to the accounts payable department where it is filed in a permanent file. Practices as to the length of time these vouchers are retained in the files varies according to the statutes of limitations, government regulations, and prudent business practice. Again, as in the case of filing in the temporary file, companies follow different policies with respect to filing the paid vouchers in a permanent file. Some file alphabetically, some numerically, and some file the invoices that have been marked with the voucher number in an alphabetical file and the vouchers in a numerical file.

Advantages

1. It is a formal, systematic procedure for making disbursements.

2. A file of numbered vouchers is substituted for a subsidiary accounts payable ledger. This eliminates the more difficult procedure required in posting to a bookkeeping account with each trade creditor, thereby saving time. Moreover, a clerk's wage is usually lower than a bookkeeper's wage, thereby reducing costs. Also, the accounts payable total can be determined by the simple expedient of taking an adding machine tape of the unpaid vouchers in the file. This consumes much less time than the balancing of the creditors' accounts.

3. Verification of all paid and unpaid invoices and bills is more effectively accomplished in that all the supporting documents are brought together under one numbered classification. This is sometimes referred to as an "audit trail," and is an important feature of any system of internal control.

4. Prompt payment to creditors is facilitated.

5. Invoices are authorized for entry into the accounts when they are received, not when they are paid. This provides management with a current record of cash requirements.

Explanation of Transactions The transactions in the voucher and check registers illustrated on pages 301, 302, and 304 may be explained as follows:

January 2: At the end of the preceding year, December 31, 1960, there were four unpaid vouchers: Nos. 75, 76, 77, and 78. These vouchers constituted the accounts payable at December 31, 1960. They are paid in the current year 1961 with Checks Nos. 1, 2, 3, and 4. Each check, it is to be noted, is cross-indexed to the voucher it is being used to pay. It is important not to overlook this procedure.

January 2: The invoice received from the Extron Corp. is the first voucher entered in 1961. In this example, The Hull Company starts each year with a new series of numbers. In some companies, the numerical sequence from the previous year is continued. In effect, this voucher produces the following debits and credits:

	Purchases		875.00	
	Freight-in		18.75	
	Selling expense		125.00	
	Accounts payable			1018.75

January 3: An invoice received from Merch Inc., for a premium due on property and liability insurance of $600 is approved for payment. The debit to Account 145, Prepaid Insurance, is entered in the sundry debit column of the voucher register. If this account, or any other account, is debited frequently, a special column is provided for the account.

January 10: The Extron Corp. Voucher No. 1 is due for payment and is paid with Check No. 5.

January 10: Voucher No. 3 is prepared in favor of the National Bank for the maturity value of a 30-day note dated December 11, 1960. The accrued interest to December 31, 1960 ($6.67) is debited to Account 206, Accrued Interest Payable, and the interest applicable to the year 1961 is debited to Account 609, Interest Expense. This transaction requires two lines in the voucher register. Check No. 6 is then made out to pay Voucher No. 3. If a reversing entry had been made for the accrued interest adjustment of December 31, 1960, the entire interest of $10 would have been debited to Interest Expense.

January 11: Vouchers for the purchase of merchandise from the Gervase Co. are entered in the amount of $6,000. Because the Gervase Co. is permitting payment in three installments, three vouchers, Nos. 4, 5, and 6, are prepared by the voucher clerk and entered in the voucher register. One third of the amount of the purchase is allocated to each voucher. This may be impractical to do in some cases. For example, if the purchase from the Gervase Co. had been for 3,000 units of Part A, costing $1 each, and 6,000 units of Part B, at $.50 each, or a total cost of $6,000.00, the division of Parts A and B among three equal vouchers would be difficult particularly in cross-indexing the supporting documents, such as the purchase order and receiving report, to the vouchers.

January 15: Part of the merchandise bought from the Extron Corp. for use by The Hull Company salesmen as samples was found to be damaged and returned to the vendor. A debit memo in the amount of $100 is

prepared by the accounts payable department and mailed to the Extron Corp. A copy is attached to Voucher No. 1 and recorded in the voucher register either in red ink or in parentheses to indicate a deduction, from the accounts payable, i.e.,

	Accounts payable		100.00	
	Selling expense			100.00
	To record samples returned			

It will be noted that, in this example, Voucher No. 1 has already been paid in full. (See Check No. 5.) The Hull Company must decide whether to ask for reimbursement or to carry the debit memo forward until its next purchase from the Extron Corp. and apply it against the payment. If it is decided to ask for reimbursement, how much should The Hull Company receive? Because a cash discount of 2% of $1,000.00 or $20 has been deducted from the invoice price of the merchandise bought (see Check No. 5), the cash refund for merchandise returned that cost $100 should only be $98, or 98% of the invoice price of the merchandise returned. The entry in the cash receipts journal in that case would be:

	Cash		98.00	
	Purchases discount		2.00	
	Accounts payable			100.00

The effect of this transaction is to reduce the purchase discount from $20 earned (see Check No. 5) to $18, or, in other words, to 2% of $900 ($1,000 merchandise purchased on Voucher No. 1, less $100 merchandise returned).

If the purchasing agent for The Hull Company intends to place another order with the Extron Corp., the file copy of the debit memo for $100 is placed in a separate file and deducted in full from the next voucher payable to the Extron Corp.

January 26: Office supplies costing $14.25 are purchased from Business Supply, Inc. As this is a cash purchase, Check No. 7 is drawn immediately to pay for the supplies when they are delivered. In a large organization, the use of a voucher system to make cash or C.O.D. purchases is cumbersome. In Chapter 16, a procedure for making small cash purchases that will overcome this objection is described. This transaction does illustrate, however, a significant feature of the voucher system; that is, a disbursement cannot be made by check unless it is

supported by a properly prepared and approved voucher, regardless of the amount involved.

January 31: The last transaction illustrated is an entry for the purchase of an investment in land costing $20,000, to be paid $5,000 in 30 days, and the balance with a $15,000 note due in 6 months. This entry requires two credits, one a credit to Accounts Payable for $5,000 (Voucher No. 8), the other a credit to Notes Payable for $15,000, entered in the sundry credit column of the voucher register. While a sundry credit column in the voucher register will not be used frequently, it does facilitate bringing together all the elements of a transaction in one book of original entry. On the other hand, some accountants prefer to enter only the $5,000 in the voucher register and the $15,000 in the general journal. The splitting of the elements of a transaction among two or more books of original entry makes the transaction difficult to trace unless it is carefully cross-indexed. Another consideration is the extent of detail necessary to describe the transaction. If a lengthy narrative is necessary, it is best to make the explanation in the general journal. A book of original entry is an historical record of the financial affairs of a company and as such is used as evidence in courts of law. Hence, any bookkeeping entry should set forth clearly and completely all the elements of a transaction, including an accurate and thoroughly documented explanation.

Posting from the Voucher and Check Registers The procedure for posting entries from the voucher and check registers follows the same pattern as described in Chapter 13. The totals of the special columns are posted at the end of the month. The entries in the sundry columns are posted individually. If the totals of the special columns are posted to control accounts, such as the selling and administrative expense debit columns, the individual entries in these columns are posted to subsidiary ledgers or expense distribution sheets (see page 286). The pattern of posting from the illustrated voucher register is detailed as follows:

COLUMN TOTALS ONLY		INDIVIDUAL ENTRIES AND COLUMN TOTALS		INDIVIDUAL ENTRIES ONLY	
Reference	Column	Reference	Column	Reference	Column
VR	(f)	VR	(g3)	VR	(g6)
VR	(g)	VR	(g5)	VR	(g7)
VR	(g1)				

Only the column totals (e, f, and g) are posted from the check register.

After posting the foregoing voucher register to the general ledger,

the Accounts Payable control account and its supporting schedule of unpaid vouchers appear as follows:

THE HULL COMPANY
General Ledger
Accounts Payable No. 221

Date		Ref.	Dr.	Cr.	Balance
1960					
Dec. 31	Balance	VR 12		17,000.00	17,000.00
1961					
Jan. 31		VR 1		14,543.00	
31		CkR 1	20,043.00		11,500.00

SCHEDULE OF UNPAID VOUCHERS
January 31, 1961

Creditor	Voucher No.	Amount
Merch Inc.	2	$ 600.00
Gervase Company	4	2,000.00
Gervase Company	5	2,000.00
Gervase Company	6	2,000.00
Sharp Development Co.	8	5,000.00
Total		$11,600.00
Deduct: Accounts payable debit balance:		
Extron Corp.	DM 1	100.00
Accounts payable per control account		$11,500.00

It will be noted that the title given to the liability created by the voucher register is "Accounts Payable." Some accountants, however, prefer the title, "Vouchers Payable." In cross-indexing the ledger to the registers, "VR" refers to the voucher register, and "CkR" refers to the check register.

Alternative Procedure of Recording Purchases Discount In paying the Fortine, Inc., Voucher No. 77 with Check No. 3, a discount of 3%, or $18, was deducted from their invoice for $600. As an alternative, instead of recording the invoice cost of $600 in the voucher register and the purchase discount in the check register when the voucher is paid, many accountants recommend that, when there is a cash or purchases discount allowable, the invoice should be entered in the voucher register at the net cost figure, i.e., $582 ($600 − $18). Purchases discounts then are recorded only as lost when the invoice is paid after the discount period has elapsed. The two methods of recording purchases discount are contrasted as follows:

Case 1. Invoice paid prior to due date:

VOUCHER REGISTER

Method A (Invoice entered at cost; purchases discounts recorded as earned upon payment)	Dr.	Cr.	Method B (Invoice entered at cost less discount; purchases discounts recorded when lost)	Dr.	Cr.
Purchases	600.00		Purchases	582.00	
Accounts payable		600.00	Accounts payable		582.00

CHECK REGISTER

Accounts payable	600.00		Accounts payable	582.00	
Purchases discounts		18.00	Cash		582.00
Cash		582.00			

Case 2. Invoice paid after due date has elapsed:

VOUCHER REGISTER

Method A			Method B		
Purchases	600.00		Purchases	582.00	
Accounts payable		600.00	Accounts payable		582.00

CHECK REGISTER

Accounts payable	600.00		Accounts payable	582.00	
Cash		600.00	Discounts lost	18.00	
			Cash		600.00

As an alternative to the foregoing procedure of recording the discount lost in the check register (Case 2: Method B), the discount lost may be recorded in the voucher register. This requires the cancellation of the original voucher and the issuance of a new voucher in its place. The entries are as follows:

VOUCHER REGISTER
Method B

	Dr.	Cr.
Accounts payable (cancels original voucher)	582.00	
Discounts lost	18.00	
Accounts payable (new voucher)		600.00

CHECK REGISTER

Accounts payable	600.00	
Cash		600.00

The procedure of entering all vouchers at cost less discount and recording discounts on purchases when they are lost, rather than when

they are earned, has merit. Management's attention is focused upon the exception, that is, the lost discount.

This procedure, however, causes complications when financial statements are prepared. At that time, all unpaid invoices should be examined to determine if the discount period has passed, requiring the following adjusting entry:

	Discounts lost		xxx	
	Accounts payable			xxx
	To record discounts lost on unpaid invoices.			

This may require canceling the original vouchers and issuing new ones. If the original vouchers are not canceled, the above adjusting entry is reversed at the beginning of the following accounting period. At the end of the fiscal year, the Discounts Lost account is closed to the Income Summary account and appears in the "Cost of Goods Sold" section of the income statement. Some accountants treat the Discounts Lost account as a financial or "other expense."

Alternative Procedure of Recording Returns and Allowances In the discussion of the entry of January 15 involving a return to the Extron Corp., it was assumed that the original invoice had been paid before the return. Two alternatives to this example were suggested, namely, to ask for reimbursement, or to deduct the debit memo from the next purchase from Extron. What procedure is to be followed if the Extron Corp. invoice has not been paid? There are two alternative methods offered as a solution:

Method A: Attach the debit memo to Voucher No. 1 and deduct it when making payment. Check No. 5 would then be $900.75 calculated as follows (this method assumes that the debit memo has been entered in the voucher register, as illustrated by the entry on January 15):

Merchandise purchases	$ 875.00
Samples purchased	125.00
Total invoice price	1,000.00
Deduct: samples returned	100.00
Net purchases	900.00
Deduct: 2% discount	18.00
Net invoice price	882.00
Add: Freight-in	18.75
Check number 5	$ 900.75

The entry in the check register would be:

	Dr.	Cr.
Accounts payable	918.75	
Purchases discounts		18.00
Cash		900.75

Method B: Cancel Voucher No. 1 and issue a new voucher (using the next consecutively numbered voucher) to which the debit memo is attached. The entries in the voucher and check registers (this method assumes that the debit memo was not entered in the voucher register) would be:

IN THE VOUCHER REGISTER

	Dr.	Cr.
Accounts payable	1,018.75	
Selling expense		100.00
Accounts payable		918.75

IN THE CHECK REGISTER

	Dr.	Cr.
Accounts payable	918.75	
Purchases discounts		18.00
Cash		900.75

The debit to Accounts Payable would be entered in red or in parentheses in the accounts payable column of the voucher register and deducted from the total at the end of the month. Voucher No. 1 would be marked "canceled" and indexed to the new voucher both on the face of the voucher and in the voucher register.

If the voucher register for January, 1961, has been posted and a debit memo issued in a subsequent month before the voucher has been paid, the entries set forth in the preceding paragraph would be made, except that the debit to Accounts Payable in the voucher register would be entered in either the sundry debit column or the accounts payable column in red in the following month.

Alternative Procedure of Recording Installment Payments Vouchers Nos. 4, 5, and 6 were made out in favor of the Gervase Co. at the time the invoice was received, because the terms of sale specified payment in three installments. However, if the installments were not agreed upon until after the invoice had been entered as one voucher for $6,000, the original voucher would have to be canceled and three new vouchers issued. The entry in the voucher register would be:

	Accounts payable		6,000.00	
	Accounts payable			2,000.00
	Accounts payable			2,000.00
	Accounts payable			2,000.00

The debit would appear in the sundry debit column or in red in the accounts payable column of the voucher register. The three new vouchers would be entered in order following the last voucher. In the

payment column on the line opposite the original voucher, reference would be made to the three new vouchers.

Alternative Procedure of Recording Notes Payable If a voucher is paid by a note after it has been entered in the voucher register, the effect is the same as if it had been paid by a check. The entry, either in the voucher register or in the general journal, would be:

Accounts payable	xxxx	
Note payable		xxxx

Later when the note is due for payment, another voucher would be prepared to pay the note, plus any accrued interest. On the other hand, if the terms of sale require the purchaser to give a note in payment at the time of the purchase, it is a proper routine to enter the purchase first in the voucher register, in order that a voucher number may be assigned to it, and then cancel the voucher by issuance of a note. Again, when the note is paid, another voucher must be prepared.

The Need for Automation

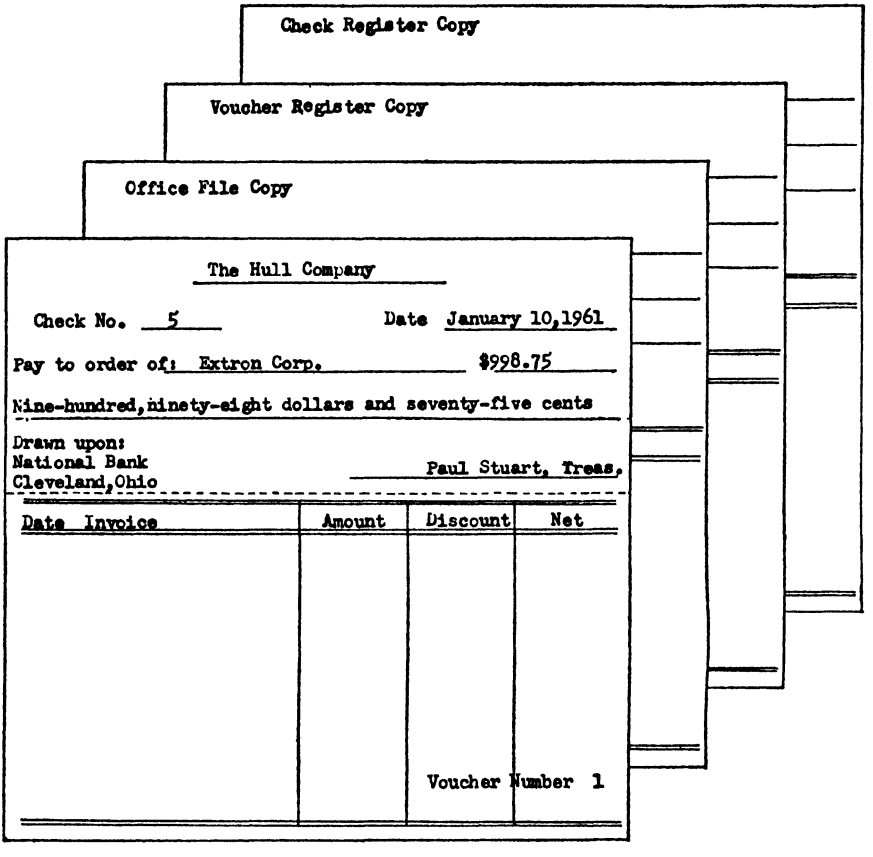
The cost of administering the affairs of a business organization are considerable. Not the least of these costs is the cost of bookkeeping and clerical work which form the links of communication binding the functions of an organization together. The voucher system described in this chapter has assumed that the accounting and clerical procedures will be done manually. At best, the only equipment presumed to be in use would be a typewriter and an adding machine.

In today's economy, however, manual methods, except for a small enterprise, would be most inadequate. Larger concerns, in which the volume of transactions and data necessitates a sizeable bookkeeping and clerical staff, must apply modern engineering methods in order to systematize the flow of accounting transactions. The objective is to integrate the processing of data to reduce costs and expedite the flow of information into management's hands. In recent years, office machinery has been developed that will not only automate methods formerly done manually, but will integrate them at the same time. An automated and integrated voucher system for a medium-size organization is described in the following paragraphs and illustrations. Fundamentally, the objectives of this system are the same as in a manual system. The innovation is in the writing and recording of the voucher and the check, using a bookkeeping machine and a four-part, voucher-check form. Only this innovation will be described.

An Automated Voucher System When a vendor's invoice is received and matched with all the appropriate documents, it is placed on the desk

of an accounting official for review. The official authorizes the writing of the voucher by noting his initials and the account number to be charged on the invoice. No voucher jacket is prepared in this procedure.

Twice a week, a bookkeeping machine operator takes the file of approved, unpaid invoices and prepares to write a four-part, combined voucher-check on the machine. The voucher-check form is illustrated below. While the operator is transcribing the voucher-check, a ledger account card is placed next to it in the platen of the machine. The voucher number, account number, and the amount of the invoice are entered in the machine which transcribes the data on the voucher check and automatically on the ledger account card. By picking up the "old" balance of the account just before the machine posts the debit, the machine will automatically add the two figures and print the "new" balance of the account. After the day's invoices have been entered, the operator inserts an accounts payable control ledger card into the



THE HULL COMPANY. ILLUSTRATION OF A VOUCHER-CHECK.

machine, picks up the "old" balance, and clears the machine, causing it to print the "new" balance of the accounts payable. Five distinct clerical and bookkeeping steps have thereby been accomplished in one operation:

1. A voucher has been prepared.
2. A check has been partially prepared at the same time.
3. Duplicate carbon copies of the voucher have been prepared which will serve as a voucher register and a check register.
4. A ledger account has been posted with the amount of the debit, and the new account balance has been brought forward.
5. An accounts payable control account has been posted with the total of the day's invoices and balanced to date.

Distribution of Copies of the Voucher-Check. The four copies of the voucher-check are distributed as follows:

1. *Original.* This copy when completed and signed becomes the check to be sent to the vendor in payment. Before it is signed, it is placed in a temporary file. At the time the check is due to be mailed, it is placed back in the bookkeeping machine and completed with the date and amount. The total of the checks written is cleared out of the machine after the checks for the day have been written and posted to the Accounts Payable control account.

2. *Office file.* This copy is stapled to the paid invoice and filed alphabetically for further reference.

3. *Voucher register.* This copy when filed numerically becomes the voucher register.

4. *Check register.* This copy when filed numerically becomes the check register.

QUESTIONS

1. Are disbursements more difficult to control than receipts?
2. What are the basic accounting problems related to the handling of disbursements?
3. What is the distinction between a disbursement and an expense? Between a disbursement and an expenditure?
4. Outline the essential features of a system of internal control over disbursements by check.
5. What are some factors that tend to affect the nature of accounting records needed to control disbursements?
6. Cite examples of the effect the nature of a business enterprise may have upon its need for accounting records and the complexity of these records.
7. What are the limiting features of the "Cash-Basis" method of accounting for disbursements? Is any accounting principle being violated by using this method?

8. What is the primary difference in accounting for expenditures when a purchases journal is used, compared with the use of a voucher register?
9. Is the voucher system more adaptable to the large or small business enterprise?
10. Why is the accounts payable subsidiary ledger eliminated in the voucher system? What problem does its elimination cause?
11. What is the difference between a voucher, a voucher jacket, and a voucher register?
12. What are the distinctive features of a voucher?
13. Why are partial-payment purchases and transactions involving notes payable unduly detailed when a voucher system is in operation?
14. Is the Vouchers Payable account a control account?
15. One of the advantages cited for the voucher system is that it saves time. In what respect does it save time? In what respect does it involve more time than other similar procedures?
16. Which of the two methods described in this chapter to handle purchases discounts assures more prompt payment to creditors? What is the essential difference in the two procedures?
17. What advantages does an automated voucher system offer?

PROBLEMS

Problem 14-1

The schedule of accounts payable of the Artcraft Co. on June 30, 1962, is as follows:

Date	Voucher	Creditor	Amount	Terms
6/5	89	Holmes Co.	$1,750.00	10th month following
6/28	110	State Tax Commission	950.00	due July 1
6/29	112	Johnson & James	350.00	2/10, n/30
6/29	113	Famous Lables	265.00	1/5, n/30
6/30	114	Office Supply Co.	21.50	2/10, n/30
			$3,336.50	

During the month of July, the following vouchers are issued:

Date	Voucher	Creditor	Amount	Terms	Explanation
7/1	115	ABC Realty	$ 500.00	cash	July rent.
7/2	116	Office Supply Co.	365.00	n/30	New typewriter.
7/3	117	Beams & Co.	830.00	1/10, n/30	Merchandise.
7/4	118	Jay Investment Co.	5,000.00	cash	Purchase government bonds.
7/5	119	Electric Co.	165.00	cash	June bill electricity.
7/10	120	Telephone Co.	85.00	cash	June bill telephone.
7/15	121	Eastern Trucking	15.25	cash	Freight-in.
7/20	122	WOOF Radio	500.00	cash	Twelve, three-minute advertisements.
7/25	123	Frank Smith	125.00	cash	Advance to salesman.
7/28	124	Postal Department	40.00	cash	Postage stamps.
7/29	125	Holmes Co.	265.00	10th month following	Merchandise.
7/30	126	Eastern Trucking	10.00	cash	Freight-out.

Other transactions which took place during the month of July are as follows:

1. All vouchers were paid when due, with the exception of Voucher No. 89; one-half of this voucher is paid on July 10, and one-half is paid with a note due in 30 days, bearing 6% interest. (Enter the note in a general journal.)
2. Returned $200 of merchandise on July 5 to Beams & Co., purchased on Voucher No. 117.
3. On July 21, received a corrected invoice from the Office Supply Co. for $385 for a typewriter purchased on July 2. The original invoice was for $365.

Required:

(A) Design a voucher register and a check register using columnar paper, following the illustrations in the text on pages 302, 303 and 304. Also, design a suitable two-column general journal.
(B) Enter the June vouchers (disregard the distribution of these vouchers) in the voucher register. Draw double lines below the June total. This total is assumed to be the same as the total of the vouchers issued in June.
(C) Enter the July vouchers in the same voucher register.
(D) Pay all vouchers when due, starting with Check No. 100.
(E) Rule the voucher register and the check register as of July 31, and prove the equality of the debits and credits, setting forth the proof on a separate sheet of paper.
(F) Post the registers to an Accounts Payable control account.
(G) Prepare a schedule of unpaid vouchers as of July 31.

Problem 14-2

Design a voucher register and a check register similar to that used in the solution to Problem 14-1, making one change in the column headings. Omit the column "Discounts Earned—Cr." from the check register and substitute a "Discounts Lost—Dr." column.

Required:

(A) Enter the transactions from Problem 14-1. Assume that all vouchers are entered at the net amounts (invoice cost less allowable discount).
(B) Pay all vouchers when due, except Vouchers Nos. 113 and 117. These are paid one day late.
(C) Total and prove all column totals of the registers.
(D) Prepare a schedule of accounts payable as of July 31.

Problem 14-3

The Easy Co. purchased $10,000 worth of merchandise on account from the Hard Co. Terms were 2/10, n/30.

Required:

(A) Journalize the purchase and the payment within the discount period:
  (1) By recording the discount at the time of payment;
  (2) By recording the discount at the time of purchase.
(B) Journalize the payment following the method in (A) (2) above, assuming the payment is made after the discount period.
(C) Where do the Purchases Discounts and Discounts Lost accounts appear in the financial statements?

Problem 14-4

A company uses a voucher system, recording discounts on purchases at the time the purchase is made. During the month of May, the following purchases are made:

Date of Purchase	Supplier	Amount	Terms of Purchase
5/15	X	$400	1/10, n/30
5/15	Y	250	10%, 5%; 2/10, n/30
5/30	Z	600	3/10, n/60

Required:

(A) Record the foregoing purchases (in general journal form).
(B) Record the payment to X on the due date (in general journal form).
(C) The payment to Y was not made on time. Record the adjustment required on May 31.
(D) Is an adjustment for Z's account necessary on May 31?

SUPPLEMENTARY PROBLEMS

Problem 14-5

The following transactions were entered into by the A. B. Frank Co.:

Jan. 5: Purchased merchandise for $1,000, terms 2/10, n/30.
Jan. 8: Purchased an automobile for $3,600.
Jan. 8: Borrowed $3,600 from a bank on a one-year note, payable monthly with interest at the rate of 6% per annum, payable monthly.
Jan. 15: Purchased a piece of land for $15,000 paying $5,000 down and gave a mortgage for the balance.
Jan. 15: Paid the down payment on the land.
Jan. 15: Paid for the purchase of Jan. 5.
Feb. 8: Paid the first installment on the bank note.

Assume that the A. B. Frank Co. uses a voucher system.

Required:

Record the above transactions in general journal form. Opposite each entry refer to the proper journal in which the transaction would be entered. (Form 1)

Problem 14-6

Record the following transactions in a voucher register and a check register similar to the registers designed in the text. Start with Voucher No. 1 and Check No. 1.

April 1: Purchased merchandise $800, less 20% and 10%, terms 1/10, n/30. Freight paid to trucking company $10.
April 2: Returned $100 of merchandise purchased on April 1. ($100 is the cost.)
April 4: Paid the telephone bill for March, $175.
April 8: Purchased a bookkeeping machine $3,000.

April 10: Paid for the purchase of April 1.
April 11: Advanced $150 to a salesman for travel expense.
April 15: Paid a note due at the bank, $5,000 plus interest of $50.
April 18: A customer to whom a credit memo had been given in March asks to be reimbursed for $75, the cost of merchandise returned. The customer's account had been paid in full in March, less a 2% discount.
April 20: Gave a note for $2,500 and $500 in cash in payment for the bookkeeping machine purchased on April 8.
April 25: Purchased merchandise $600.
April 30: Foot and cross-foot the voucher and check registers, and prepare a schedule of vouchers payable.

(Forms 22, 23, 1)

Problem 14-7

A company records all purchases of merchandise at a net price (cost less allowable purchases discount) at the time of purchase. At June 30, the following vouchers are unpaid:

Date of Purchase	Voucher No.	Net Amount	Terms
June 1	135	$ 490	2/10, n/30
June 10	146	388	3/20, n/60
June 28	157	588	2/10, n/30
June 29	158	792	1/5, n/30
Total		$2,258	

Required:
(A) Determine the correct liability for accounts payable at June 30.
(B) Prepare the June 30 adjusting entry to adjust the accounts payable.
(Form 3)

15

Basic Concepts and Principles

Introduction

The foundation of any structure is always below the surface; and the strength of the structure depends largely upon the depth of the foundation. By analogy, then, as the structure of the art and science of accounting is built, proficiency is achieved only insofar as the depths of the concepts and principles of accounting have been penetrated. The purpose of this chapter is to examine the foundations of accounting.

Nature of Accounting

On page one, accounting is described as being "concerned with the recording of business transactions in such a manner that the results of the transactions may be reviewed and interpreted." Accounting may be defined in terms of its fundamental processes. In these terms, accounting is an art which: (a) analyzes business transactions in terms of their debit and credit relationships, (b) records the debits and credits in proper journals and ledgers, and (c) interprets the results in the form of operating and position statements. In performing its functions, accounting is closely related to the disciplines of law and economics. The framework within which accounting operates is mainly legal, its motivation economic.

As an art, accounting follows a collection of rules, which, if used and applied correctly, reduce the multitude of business transactions to an orderly process. The art of accounting and its methodology is related to statistics as a branch of knowledge. The system of accounts used in accounting is a means whereby financial transactions are classified and brought together under a pre-determined arrangement called a "Chart

of Accounts." (See Chapter 25.) In this sense, accounting is an example of a statistical technique. Furthermore, looked at in its broadest aspects, accounting provides a basis for the solution of a variety of financial and economic problems which may not be thought of as coming within its scope. An example of the use of the art of accounting, aside from its essential purpose in recording the transactions of an enterprise in a meaningful manner, is to be found in the presentation of national income figures. This newly developed application of accounting technique is called "National Income Accounting." By adopting the accounting technique of balancing charges and credits through the use of accounts, economists have found a means of explaining the elements of income and outgo that produce the balance of the national income of the economy.

Accounting, on the other hand, may be described as scientific in the way it deals with financial information. It is scientific [1] in that it is an attempt to arrive at a knowledge of the financial operations of an enterprise through *inquiry, observation,* and *reflection* on the underlying causes of the financial condition of an enterprise. Accounting may be further described as an applied science in which generally recognized principles are applied in the interpretation of financial data. A *principle* may be *defined* as a fundamental truth which cannot be denied without logical contradiction; or it may be defined as a law of action stemming from the interaction of the physical forces of nature; or it may be defined as the crystallization of man-made practices, conventions, and customs. Many established commercial and financial practices that have evolved over the centuries out of man's economic activities have achieved recognition as principles of accounting. These practices may be called principles because they are generally recognized and, as such, have widespread applicability. Nevertheless, because these practices are a development of man's economic activities, as these activities evolve, so will the principles of accounting evolve. What are now generally recognized as principles of accounting may not be so recognized in the future, because they may be no longer applicable. It is for this reason that accounting offers a continuing challenge to the student. The following commentary by a prominent writer in the field of accounting literature expresses admirably the position of accounting in the body of man's knowledge:

"It is clear that accounting theory cannot justifiably be said to consist of scientific explanations. There are no immutable laws of accountancy comparable to the immutable laws of Nature; there are no laboratory tests and controlled experiments to yield data which may be set up as mathematical formulas to express existing relationships. Yet we

[1] Cf. pp. 216–226, Robinson, Daniel S., *The Principles of Reasoning.* D. Appleton and Company, New York, 1929.

must grant that knowledge is involved in accountancy and that significant relationships exist between the ideas which constitute accounting knowledge. These relationships are not so precise and measurable as to produce laws and formulas. But there are truths in accountancy, truths that rest upon such factors as carefully defined classifications, closely drawn distinctions, clearly perceived objectives, a strong sense of relevance among data. When these truths, these significant relationships, are formulated in careful phrasing, we may find that principles of accounting are emerging. For it is reasonable to believe that some kinds of formulations of related ideas may deserve the name principles even though they do not derive from controlled experimentation and do not aspire to the status of laws." [2]

The author of the above quotation plainly denies to accounting any claim as a *formal, abstract* science. Much of what he says, however, may be understood to imply that accounting is an *applied science.*

One further qualification must be added before drawing a conclusion that accounting can make any claim to be scientific. The central purpose of scientific inquiry is to attain truth. The accountant, no less than the physicist, the mathematician, or the historian is continuously searching for the truth, the truth that is embodied in the financial records of an enterprise. The truth that the accountant obtains is not as precise or factual as that obtained by the mathematician. In many instances, the truth that the accountant expresses is based upon an opinion rather than upon fact. While this does not necessarily make the results unreliable, it does place a grave responsibility upon the accountant. He must conduct his inquiry in an unbiased, objective manner. He must state his conclusions, particularly when they take the form of financial statements, fairly and in accord with generally accepted accounting principles. These principles are set forth in the following paragraphs, following an analysis of certain basic concepts or terms which these principles employ.

Basic Concepts

Cost The term *cost* means fundamentally an outlay of time or effort expressed in monetary terms. As used in accounting, cost is the monetary price paid for the acquisition of goods, and other economic utilities embodied initially in the form of assets. In the initial acquisition of these goods and economic utilities, accountants equate cost with value. This basic concept of cost thus is a postulate or essential prerequisite for an accounting principle: namely, *that original or acquisition cost is the*

[2] Page 135, Littleton, A. C., *Structure of Accounting Theory.* Monograph No. 5, The American Accounting Association, 1953.

basis for the valuation of assets upon the books of account and in the financial statements.

Initially, then, if the transaction giving rise to a cost is conducted at "arms-length" by the contracting parties, cost is representative of value received. (An "arms-length" transaction is one wherein the contracting parties are mutually independent and each party strives to achieve an economic advantage.) Subsequently, although values change, the original cost is maintained on the accounting records. A practical reason for the adherence to cost in accounting despite changes in value is that cost is an objective, easily verifiable figure. Furthermore, it is a legally established basis for future comparison and reference. With few exceptions, cost, therefore, once it is agreed upon by the buyer and seller, becomes the amount of the debit and credit on the books of the buyer and seller. One common example of the departure from cost occurs during the operation of a merchandising enterprise when slow-selling products are "marked-down," sometimes below cost, in order to sell them. Also, at the end of the fiscal period, when an inventory is taken, products are frequently priced at the lower of acquisition cost or the current replacement cost. The subjects of inventory valuation and related merchandising problems are discussed more fully in Chapter 17.

Another example is the case of a chemist who develops a formula for a new product. He may form a corporation and transfer the formula to the corporation in exchange for capital stock in the corporation. What is the *cost* of the formula to the corporation? What is the *value* of the formula to the corporation? These are difficult questions to answer. The figure assigned to the asset "Secret Formula" may be arbitrary and result in the corporation's being *over-capitalized* or *under-capitalized.* These terms mean that capital stock may have been exchanged for assets whose recorded value is not commensurate with their earning power. Consequently, the real value behind the assets is greater or less than the value assigned to the capital stock. The valuation of intangible assets is covered more fully in Chapter 19.

Expenditure Closely related to the concept of cost is the term "Expenditure." An expenditure is defined on page 198 as "a payment, or the incurring of an obligation to pay, for an asset or a service." Thus, when an expenditure is made, it takes the form of a reduction of an asset or the increase of a liability. Offsetting the expenditure is the simultaneous incurrence of a cost which takes the form of some assets or benefit to the enterprise making the expenditure. Accountants refer to two major classes of expenditures:

1. *Capital expenditures* These expenditures or charges are made for the purpose of acquiring an asset, the cost of which is to be apportioned over more than one accounting period. Furthermore, a capital expenditure should be intended to result in an investment in a relatively per-

manent resource used in the operations of the enterprise. Such a resource forms a part of the permanent capital, inasmuch as it is not for sale in the ordinary course of the business operations. While companies as a matter of practical policy sometimes limit the minimum cost to be treated as a capital expenditure, they generally follow certain criteria established by accountants, as being sound procedure. These criteria or tests to determine whether to treat an expenditure as a capital expenditure are enumerated as follows:

(a) Will the expenditure produce a benefit to the enterprise extending beyond the current fiscal period?
(b) Will the expenditure *materially* add to the value of the existing capital assets?
(c) Will the expenditure *significantly* prolong the life of the existing capital assets beyond the originally estimated service life of the assets?
(d) Will the expenditure increase the earning capacity of the enterprise to benefit subsequent fiscal years?

If the answers to these questions are affirmative, the transaction should properly be recorded as a capital expenditure.

2. *Revenue expenditure* A revenue expenditure as distinguished from a capital expenditure:

(a) Provides benefits only to the current fiscal period in the form of goods and services needed for current operations.
(b) Does not materially add to the value of existing capital assets, but maintains or services existing assets.
(c) Is incurred for the purpose of maintaining the present earning capacity of the enterprise.

Expense An expense is a cost charged against current revenues. All revenue expenditures, therefore, are properly classified as expenses. But, some expenses are not revenue expenditures. For example, the periodical adjusting entries which transform capital expenditures into expenses in the form of depreciation or which revalue current assets by allowance for bad debts are not revenue expenditures. Throughout the accounting process, the problem of expense determination and expense classification is a major preoccupation of the accountant. The problem is threefold, namely, (1) the recognition of the expense, (2) the recording of the expense, and (3) the classification or presentation of the expense.

1. *Expense recognition* The test of an expense is whether the transaction giving rise to it is associated with the production of current revenue. If the expense is expected to produce revenue in the subse-

quent fiscal period, it is called a *prepaid expense.* In Chapter 9, the procedure for the transformation of a prepaid expense into a current expense was described in detail. Before the transformation takes place, the prepaid expense is carried in the balance sheet and classified as a current asset.[3]

There is another distinction to be made in the recognition of an expense. This is the distinction between an expense and a *loss.* An expense is expected to produce revenue, either directly, as in the case of advertising, or indirectly as in the case of maintenance and repairs. A loss does not produce revenue; it has no utility to the enterprise suffering the loss. Therefore, an enterprise is not justified in treating an embezzlement of funds as a prepaid expense to be amortized over future years. Furthermore, it is not proper to classify the loss in the income statement as an expense. It is properly shown as a deduction of the net income after all expenses have been deducted from the revenue.

A final point to be made with regard to expense recognition is the periodical transformation of certain capital expenditures into expenses. This procedure is described more fully in Chapters 18 and 19.

2. *Expense recording* An expense should be recorded when incurred. The time for the occurrence of this transaction determines the manner by which it is recorded. If the expense arises out of an expenditure, it may be recorded in the cash disbursements journal, a multi-column purchases journal, or the voucher register. If the expense is the result of the transformation of a prepaid expense or other asset, the record may be made in the general journal as an adjusting entry.

3. *Expense classification* At the time the expense is recorded, it is important that the nature of the expense be clearly recognized and that it be debited to an appropriately titled account. If the same expense arises again, it is equally important that the same account be debited. If a consistent pattern is followed in classifying expenses, the comparison of the balance in an expense account at the end of a period with the balance at the end of the preceding period will provide the accountant and management with valuable information. By comparing expenses periodically, management is better able to control expenses and take steps to reduce those expenses which are at variance with an established trend.

Expenses may be classified in many ways. Two major methods of classification are outlined below. The first classification is by *object.* This is the most common method of classifying expenses. In this form of classification, expenses are debited *primarily* to accounts with titles that are descriptive of their nature, as for example:

[3] Accounting Research Bulletin No. 43, *American Institute of Certified Public Accountants,* New York, 1953, p. 20.

(a) Wages
(b) Cost of Goods Sold (under the perpetual inventory method)
(c) Purchases (under the physical inventory method)
(d) Rent
(e) Bad Debts

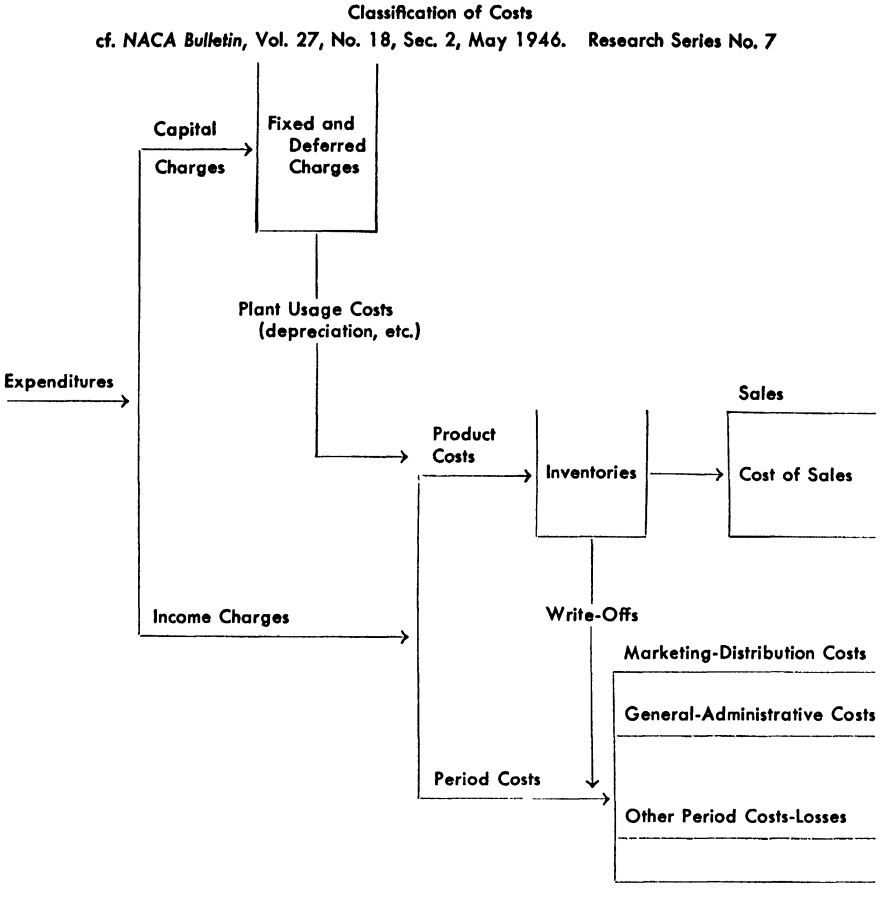
Another form of classification, which is usually *secondary* to the main classification by object, is by *function*, such as:

(a) Manufacturing
(b) Selling
(c) General
(d) Other

The Income Statement on page 229 of Chapter 11 classifies the object expenses taken from the trial balance under the broad functional classifications of "Operating Expenses" and further as to "Selling," "General," and "Other" expenses. This method of classification generally serves the needs of a merchandising enterprise. A manufacturing enterprise, such as that described in Chapter 25, requires additional expense classifications.

Classifications of Costs—A Diagram So far in this discussion of the basic concepts of accounting, primary attention has been given to concepts and terms used to describe those transactions that cause an outgo of the funds of an enterprise. A schematic diagram outlining the outward flow of funds is presented on page 327. In this diagram, beginning with an expenditure, a distinction is made initially between a capital and a revenue expenditure. The capital expenditure is charged to an asset account or to a deferred charge. (For an explanation of this category of cost, see the following section.) The expenditure is held, by analogy, in a pool or reservoir of resources to be drawn upon as the operations progress. The revenue expenditure or expense enters into the main stream of the current period's operations. As time passes, the pooled assets or resources are transformed into expenses, in the form of depreciation allowances, amortization of prepaid expenses, such as insurance premiums expired, and similar entries that write off assets over a period of time.

During the passage of time, the main stream of revenue expenditures and expenses produce goods and services for sale. If, in the production of goods, there is an unsold quantity of the product at the end of the fiscal year, this portion of goods available for sale is placed in an inventory account. In this manner, inventory is returned to the reservoir of resources to be drawn into the revenue stream during the following fiscal period. This is another way of describing the *accounting cycle.*



Fixed and Variable Costs The diagram above classifies costs by object or purpose and by function. A classification of costs that is useful in solving many business and accounting problems (refer to Chapter 21) emphasizes the distinction between costs that vary with production or sales, and those that do not. Costs that vary with production or sales are *variable costs*, e.g., the wages of a factory production worker, or the commissions paid to a salesman. Costs that do not vary with production or sales within the limits of the existing capacity of an enterprise are *fixed costs*. In a broad sense, fixed costs cannot be escaped, that is, they continue (within reasonable limits, of course) regardless of the amount of production or sales. For example, the interest paid on a mortgage on a store building, the real estate taxes, and depreciation and insurance on the store building are costs that are not affected by sales. The only way these costs can be escaped is to go out of business. While a business is in operation, these costs are relatively fixed. And it is in the sense

of a going-concern that the distinction between fixed and variable costs is drawn here.

In practice, some costs exhibit both fixed and variable elements. For example, a salesman may be paid a salary of $500 a month plus a commission of 5% of the sales he makes. If he sells $20,000 worth of merchandise in a month, he will receive a salary of $1,500, and the Salesmen's Salary account will be debited for that amount. The salary of $1,500 is analyzed as follows:

Base salary (fixed cost)	$ 500
Commission (variable cost, 5% of $20,000)	1,000
Total cost	$1,500

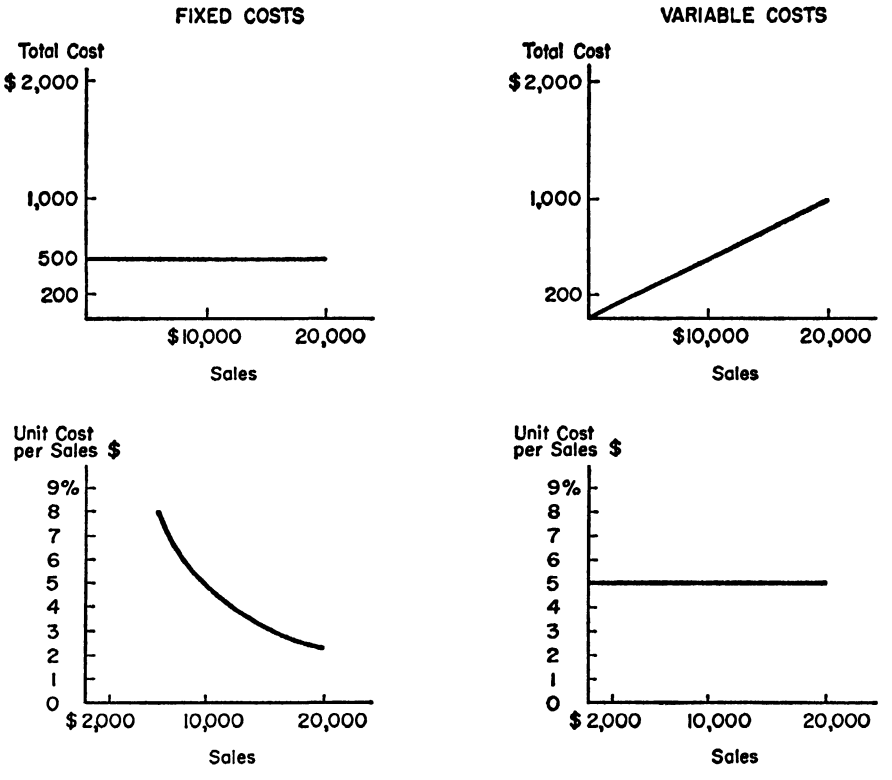
Another observation regarding the nature of fixed and variable costs is the unit relationship of the cost with production or sales. A fixed cost varies inversely per unit with production or sales; a variable cost is constant per unit, but varies directly in total with the amount of production or sales. This "cost-volume" relationship in turn affects profits. As sales volume increases, the percentage of fixed costs decreases, which in turn increases the percentage of profit.

Using the preceding example, the following tabulation illustrates the differences between the two types of cost as they vary with different amounts of sales:

Sales	$10,000	$20,000	$30,000	$40,000
Fixed cost (base salary)	500	500	500	500
Fixed cost per dollar of sales	5%	2½%	1⅔%	1¼%
Variable cost (commission)	500	1,000	1,500	2,000
Variable cost per dollar of sales	5%	5%	5%	5%
Total cost (total earnings)	1,000	1,500	2,000	2,500

The two sets of graphs on page 329 highlight the two principal characteristics of the fixed and variable costs—the relationship of their respective total costs with sales and the relationship expressed as a per unit cost. The first two graphs illustrate the total dollars of cost in relationship to sales. The second two graphs illustrate their unit cost relationships.

Deferred Charges Closely related to prepaid expenses is a type of cost known as a deferred charge. In a broad sense, all prepaid expenses are deferred charges, in that they are transferred or deferred from one fiscal period to another until the service or utility has been used or has expired. If the accountant follows the dictate of *Accounting Research Bulletin Number 43* and classifies prepaid expenses as current assets, such prepayments will either be converted into cash during the operating cycle of the enterprise, or they will represent a portion of the current



CHARACTERISTICS OF FIXED AND VARIABLE COSTS.

assets which will not require a future expenditure. In other words, prepaid expenses are a part of the working capital of the enterprise. However, there are some forms of prepayments that are not prepaid expenses, and therefore are not current assets; for example:

1. Prepayments for goods or services that may extend beyond the normal operating cycle, such as a deposit to guarantee a lease, the deposit to be applied against the last month's rent of the term of the lease.
2. Prepayments for services that have no definite period of expiration, such as the cost of organizing an enterprise, consisting of legal fees, the printing of stock certificates, and the promotional costs necessary to place an enterprise into productive operation.

Accountants generally recommend that long-term prepayments and deferred charges be shown on the balance sheet following the fixed asset classification. Because of the close relationship with assets of an intangible nature, some accountants have also recommended that long-term prepayments and other deferred charges be shown under the heading

of "Intangible Assets," following the fixed asset classification on the balance sheet. Intangible assets are described more fully in Chapter 19.

Revenue The incoming flow of funds, resources, or assets not derived from proprietorship investment, and not offset by an increase in a liability or by a decrease in another asset, is denoted generally by the term "revenue." The term revenue is usually descriptive of a *gross* inflow of assets resulting from sales or services. For example, the revenue of a merchandising concern is the total sales of the enterprise, as represented by the debit to cash or accounts receivable. This is to be distinguished from the *gross profit* resulting after deducting the cost of sales from the total sales revenue.

A careful distinction is to be drawn regarding the uses of the terms *revenue, income,* and *profit.* Sometimes these terms are used synonymously. Although they stem from and are a form of revenue, it is recommended that the terms "income" and "profit" be prefixed by the adjectives "gross" or "net," when they are used. A further qualification is that the term "profit" may be used without restriction when describing a specific transaction, such as the "profit" derived from the sale of an investment.[4]

For example, the following statement illustrates the differences in the usage of these terms:

INCOME STATEMENT
For the Year Ended December 31, 19—

Revenue:	
Sales	$100,000
Cost of Goods Sold	40,000
Gross Profit	$ 60,000
Expenses	45,000
Net Income from Operations	$ 15,000
Add: Gain on sale of capital assets	5,000
Net Income, before Provision for Income Taxes	$ 20,000

Realized and Unrealized Revenue Just as a distinction was made between those expenditures that are chargeable to current operations as expenses and those deferred to future accounting periods, so there is a distinction to be made between revenues that are considered as earned or realized and those that are not earned. The following are the criteria that can be used as guide lines in drawing this distinction.

1. In the case of the sale of goods or services, the accountant generally follows the law of contracts in determining whether a sale has been consummated and a valid claim for the receipt of revenue established.

[4] Accounting Bulletin No. 2, prepared by the *Committee on Terminology for the American Institute of Certified Public Accountants,* New York, 1955, pp. 3–4

A sale or the rendering of a service is deemed to be a valid, binding contract if all the essentials of a contract have been fulfilled. In the case of a sale of goods, an important factor in the determination of the validity of a contract of sale is the passage of title to the goods. As a general rule, the intentions of the contracting parties govern the passage of title. The accountant, therefore, must be continuously alert when he is examining transactions to be certain that he is correctly interpreting the intentions of the parties.

2. The transfer of possession of goods is not always a certain guide as to the passage of title. For example, a salesman may take an order subject to delivery within a certain time period. A sale should not be recorded until the product is delivered within the time specified. Another salesman working for a wholesale merchant may take an order for an item that is not in stock and must be ordered from a manufacturer. If the wholesaler records the order as a sale before it is delivered by the manufacturer, he has misstated the transaction because no sale has taken place. The Accounts Receivable and Sales accounts are overstated. The wholesaler has anticipated a profit he has not earned, a violation of the *accounting principle that profit can be considered as earned only when a valid claim to the revenue from which the profit is to be derived has been established.* The error could be further compounded if the wholesaler makes the mistake of paying the salesman a commission on orders taken, rather than on orders filled. In short, revenue cannot be considered as realized until a valid claim for its receipt can be made against the buyer.

3. Revenue is unrealized or unearned when it is offset by a liability of an equal amount. For example, when the terms of a contract are completed through the passage of time, as in the case of rentals received in advance, the revenue is earned when the obligation to render service in the form of occupancy is fulfilled by the landlord. A similar transformation is followed when cash is received subject to a future delivery of goods. When the cash is received, an entry is made debiting Cash and crediting an account, Deposits Received from Customers. After delivery of the goods, an adjusting entry is made debiting Deposits Received from Customers and crediting Accounts Receivable. The debit to Accounts Receivable will have been made when the sale was consummated.

There are many different classes of enterprises that receive funds in advance of the actual sale or the rendering of a service. These enterprises must make a careful distinction between earned and unearned revenues so that their financial statements will present a clear and correct presentation of their financial condition and the results of their operations during the fiscal period. The following are a few examples:

1. Magazine publishers take subscriptions for future delivery. As is usually the case, the subscriber pays for the subscription at the time the order is taken. The publisher then receives revenue in advance which must be prorated over the period of the subscription.
2. Lawyers receive retainer fees in advance of services rendered.
3. Many governmental enterprises collect taxes in advance of the fiscal year for which appropriations will be made.
4. Municipal transportation companies sell tokens or tickets entitling the holder to future transportation.

Going-Concern Value All of the foregoing concepts and terms assume that the operations of the enterprise are continuous, except for the periodic breaks in continuity allowed for inventory-taking and the closing of the books at the end of the fiscal year. The applicability of this concept to an enterprise that is in the process of reorganization or liquidation would not be appropriate. For instance, if a business concern is *insolvent,* that is, if its liabilities exceed its assets, the creditors' main objective may be to realize enough from the sale of the assets to cover their claims. A balance sheet presented to the creditors under these circumstances would be based on the present market value of the assets rather than upon cost. Also, it may well be that the creditors will have little interest in the possible future earnings of an insolvent enterprise, so that the concepts of expense and revenue lose their significance in the face of the immediate problems of the preservation, valuation, and disposition of the remaining assets. Furthermore, the interests of the creditors may lie in the valuation of individual assets as a source of funds to meet the matured obligations rather than in the value of the assets as a whole. Competent management and inspired leadership are responsible for much of the difference between the value of the assets of a going concern, taken as a whole, and the aggregate of the values of the assets taken individually.

Principles of Accounting

The basic concepts of accounting which have been explained in the previous paragraphs of this chapter can be restated in the form of general propositions to be followed in carrying out accounting procedures. Several of these principles are summarized in the following paragraphs. It is significant to state, however, that these and any other stated principles of accounting do not have the full force and sanction of law, except insofar as they have been contained in the rules and regulations of State and Federal taxing authorities, and the rules and regulations of the Securities and Exchange Commission. The *rules of professional con-*

duct promulgated by the professional licensing agencies of some states which license and register the Certified Public Accountant subjects the CPA to disciplinary action and possible loss of his license for a violation of these rules. Beyond these restrictions, the application of the principles of accounting, however, is voluntary. The American Institute of Certified Public Accountants, which is the national association of certified public accountants in the United States, has published 51 research bulletins on accounting concepts, principles, and procedures which are recommended to its membership for consideration in their practice. Another organization whose pronouncements are specifically recommended (not mandatory) is the American Accounting Association, organized for the purpose of advancing the knowledge of accounting theory and practice.

Principle 1

Original or acquisition cost is the basis for valuation of assets when they are recorded on the books of account and when they are presented in financial statements.

Although discussed in detail on pages 322–323, one further point deserves mention. The cost principle assumes that the monetary unit is stable in value; thus it disregards the effects of price level changes. Fixed assets are particularly affected by changes in the price level because the assets may be in use over several years during which the replacement cost may have risen as a result of inflationary conditions. Consequently, as depreciation is usually based on cost, some accountants believe the current year's depreciation may be understated to the extent of the difference between the depreciation based on cost and what the depreciation would be if based upon the present cost to replace the fixed asset. So far, few accountants have taken steps to adjust the depreciation figure, as a normal phase of the accounting cycle, to a replacement cost basis. Most accountants continue to base depreciation on the original cost of the asset.

Principle 2

Revenue earned should be matched with related costs.

This is, perhaps, the most important principle of accounting. In effect, it describes the final end of the accounting process; that is, to measure the excess of revenue over related costs. This objective not only applies to commercial, industrial, and professional activity, but to non-profit enterprise as well. A non-profit enterprise, no less than a commercial enterprise, plans its operations so that its revenue exceeds its expenses, in order that a balance, or "net revenue," is accumulated to help finance the ensuing accounting period. No enterprise can survive, unless it is subsidized by some other enterprise, if the revenues from the utilities it produces and sells are less than the costs of the product and services sold. Following are some corollaries to this principle of accounting:

1. In matching costs and revenues, both amounts should appear in the statements even though they may cancel one another. For example, both gross sales and the cost of goods sold should appear in the income statement.

2. Materiality is a practical and sound consideration in judging the relative significance of the costs and revenues to be matched. For example, a pencil sharpener is purchased for $3.50. If the sharpener is presumed to last five years, should the $3.50 be depreciated each year by $.70 or should the $3.50 be treated as a revenue expenditure, even though it is a capital expenditure in principle?

3. "Imputed" costs are not usually recorded as accounting costs. For example, interest on the invested capital in an enterprise, although an economic cost in management's plans for profit, is not generally considered as an accounting cost. There may be other costs (for example, a portion of the net income earned by a proprietor or a partner in an unincorporated business enterprise is a return to the proprietor for the services he has rendered), which influence the determination of a market price, but are omitted by accountants in the process of matching costs against revenues during the course of the operating cycle of a going concern. One reason why accountants omit these costs is that they are not the result of a contractual relationship between a buyer and a seller conducted on an "arms-length" basis of negotiation. This does not mean that accountants are unaware of these costs, nor does it mean that they are disregarded by accountants when making special cost studies and analyses for management.

4. Provision should be made for the periodical transformation of capital expenditures and prepaid expenses into current expenses. This is accomplished by means of periodical adjusting entries, preferably made monthly so that management has an accurate income statement each month. These entries, most of which recur in a regular cycle, are explained in detail in Chapters 9 and 10. In summary, however, the adjusting entries which transform capital expenditures and prepaid expenses into current expenses are:

(a) *Allowance for depreciation.* This entry transforms the cost of a fixed asset over its useful life into periodical charges to revenue. There is considerable misunderstanding as to the nature of this transformation. Some believe that a fund or cash resource is produced in the process of transforming a capital expenditure into a revenue expenditure. The simple fact is that a fixed asset is a "deferred expense" to be spread over the several years of its useful life. The funds of an enterprise are affected only when the "deferred expense" is incurred. Subsequent years' amortization of the "deferred expense" does not affect the funds of these

years. In other words, depreciation and amortization do not conserve or add to the funds of an enterprise. If the enterprise does not earn any revenue, depreciation still continues, certainly in the form of economic obsolescence. Reiterating the thought, an enterprise cannot pay its bills from accumulated depreciation. This concept will be brought into full focus in Chapter 28.

(b) *Expenses paid in advance.* This subject is covered in Chapter 9.

5. A distinction is to be made between receipts that are earned and receipts that are not earned but which create a liability until such time as a service has been rendered or a sale made. The accounting procedures for producing this transformation of unearned revenues into earned or realized revenue is described fully in Chapter 9.

6. Provision is to be made for those revenues that have accrued but which have not been received. This subject is discussed in detail in Chapter 8.

Principle 3

Profit can be considered as earned only when a valid claim to the revenue from which the profit is to be derived has been established.

This principle in its everyday application is often stated as: "Anticipate no gains, but provide for all losses." This is the practical rule of *conservatism* that has characterized the practice of accounting for many years. Carelessly considered, and rigidly but thoughtlessly applied, this rule tends to color financial reports and make them misleading to the many divergent interests that rely upon these reports. For example, the frequent occurrence of "conservatively" valuing an inventory in order to show a "conservative" income picture is a serious matter if the reduced inventory valuation is not based upon a careful study of all the circumstances involved. Management has a grave responsibility in deciding whether a decline in the replacement cost of an inventory item is of sufficient duration to justify using this figure instead of the higher cost figure at which the inventory was purchased. An illustration of the effects of reducing inventory to the lower of cost or market is presented in Chapter 17.

Principle 4

Every financial statement should fully disclose all pertinent information that has a bearing on the figures in the statements and that will make possible a reasonable interpretation of their meaning.

In many respects, this principle is related to the "principle of conservatism" referred to in the previous paragraph. The accountant is constantly being challenged in his efforts to adhere to this principle. For example, if the Income Statement shows "Sales $90,000," it is important to the reader of the statement to know that the Gross Sales were $100,000 and Returned Sales, $10,000. A 10% return of sales might be

cause for an investigation, but the question will not arise if only the $90,000 is shown in the Income Statement.

Principle 5

Because of the many uses to which financial statements are put, the figures that compose them should be comparable in classification and derivation with those of preceding years.

Another way in which this principle may be stated is that the structure upon which the financial statements rest should reflect a consistent pattern from year to year, assuming, of course, that the pattern is a sound one. Analysts of financial statements frequently compare the current year's financial report with those of preceding years. They rely upon the report to follow the same nomenclature; for example, that the item "Advertising Expense" means the same as it did in previous years. If management has redefined this account to include or exclude certain expenditures, the change should be so stated, inasmuch as the analysts rely upon the *Principle of Full Disclosure* to tell them what the changes have been if they are significant. A specific example of inconsistent and improper accounting classification is the inclusion of salesmen's entertainment of customers as advertising in the current year when in prior years this expense was classified as "Salesmen's Travel and Entertainment Expense."

Classes of Accounting Service

Although this chapter is devoted to an examination of the foundations of accounting knowledge, it must not be overlooked that accounting is a "practical art." The concepts and principles of accounting take on real meaning when they are applied to the daily operations of the economic and social affairs of society. The foregoing analysis of the structure of accounting emphasized the private, profit-making enterprise in the examples cited. This is not to say that accounting only serves this class of economic activity. There are many other forms of economic and social activity that require accounting, namely:

Private, non-profit activity:

1. Hospitals
2. Labor unions
3. Fraternal societies
4. Educational institutions
5. Scientific organizations

Public, non-profit activity:

1. School districts
2. Villages

3. Cities
4. Towns
5. Counties
6. States
7. Various kinds of government-owned organizations, such as transit companies, hospitals, etc.
8. Federal Government

In serving the commercial and industrial enterprises of the community and the different classes of non-profit organizations, the accountant performs a variety of accounting services. These services may be performed by either a public accountant or a non-public accountant.

Public Accounting The essence of public accounting is service of a professional nature. In serving his clients for a fee, the public accountant functions as an independent expert in his chosen field. His unique status as a professional practitioner lies in his duty, not only to serve with the highest degree of integrity which is true of all professions, but his duty to fully disclose the results of his findings to the many divergent interests that make up the term "public." However, it is the duty of the public accountant, because of the highly personal nature of his relationship with his client, to hold any knowledge of his client's affairs in strict confidence. Any disclosure, therefore, is made only with the express permission of the client. Having been engaged to conduct an examination of the financial statements of an enterprise and to express an opinion concerning them, it is the duty of the auditor to disclose the following matters:

1. Facts of a material nature not expressed in the financial statements but necessary so as not to mislead the readers.
2. Significant changes in accounting procedures which will render the current year's statements inconsistent with those of previous years.
3. Violation of accounting principles.
4. Failure to follow standards of reporting and standards of examination necessary to give credence to the content and form of the statements.[5]

In many states of the United States and in most foreign countries, the public accountant is licensed and must register periodically with the state in which he is practicing. To achieve the designation, "Certified Public Accountant," the public accountant must pass a series of examinations in the fields of accounting theory, commercial law, auditing, and accounting problems. This examination is prepared by the American Institute of Certified Public Accountants and given in all 50 states and the District of Columbia. In addition, in some states, the candidate for

[5] Cf. "Rules of Professional Conduct," promulgated by the *American Institute of Certified Public Accountants*, especially Rules 5 and 6.

the C.P.A. examination must be a college graduate with a degree in accounting and must have performed diversified public accounting and auditing practice from one to three years, depending upon the jurisdiction.

Non-public Accountant The non-public accountant is an employee of a commercial or industrial concern, or a non-profit organization. Working for a salary or a wage, under the direction of an employer, the non-public accountant can hold a variety of positions of an accounting nature, depending upon his qualifications, experience, and willingness to accept responsibility. The top position in the field of private accounting is often referred to as "The Controller."

Controllership The controller in an industrial and commercial organization is the chief accounting official. While the specific duties of the controller vary with individual companies, generally they comprise the following:

1. Coordination of all accounting functions: (a) financial accounting, (b) cost accounting, (c) payroll accounting, (d) accounting for sales and receivables, (e) accounting for purchases and accounts payable, (f) accounting for receipts and disbursements, (g) accounting for inventory, and (h) accounting for property.
2. Communication of financial information to management through reports and statements.
3. Promotion of efficiency in the performance of the various accounting functions.
4. Assistance to management in controlling the operations of the enterprise.
5. Assistance to management in formulating policies and carrying them through to successful conclusion.

Systems Design The accountant is frequently engaged to design an accounting system, which could range from a simple journal and ledger to a complicated system of integrated data processing in which an electronic computer is used. To design an accounting system, the accountant should become familiar with the nature of the enterprise, such as its legal and economic structure and the needs of management to successfully control the enterprise. If complicated machinery is required to handle the volume of transactions, the accountant will probably need special training beyond his special knowledge of accounting principles and practices.

Auditing After the accountant has designed an accounting system and assisted in its installation, he will be called upon to investigate its operation periodically and report to the management or to the stockholders as to its efficiency and reliability. If this service is performed by an employee of the enterprise, it is called "Internal Auditing," to distinguish it from the independent audit performed by the independent public

accountant. The audit performed by the CPA while it may be periodic, such as semi-monthly or annually, is not done under management's direction. It is an independent investigation. In a report to the stockholders, the CPA signs a certificate stating that he has conducted an audit based upon auditing standards, and that the results of his findings and his examination of the financial statements indicate that they fairly present the financial condition of the company and the results of its operations for a stated period of time *in conformity with generally accepted principles applied on a basis consistent with that of the preceding year.*

Cost Accounting In performing this function, the accountant analyzes the costs of manufacturing or selling a product, or the costs of rendering a service with a view to keeping these costs under control. The accountant's activities in this area are frequently correlated with those of the engineer.

Budgeting The success of most enterprises is dependent in large measure upon the care with which future operations are planned. The position of a budget director is to correlate the plans of the sales manager, the production manager, the treasurer, and general management into an over-all projection in the form of an Income Statement and a Balance Sheet.

Other Management Services In the course of his duties, the accountant performs a variety of services to management other than those mentioned above. These services are a natural result of his experience and his intimate knowledge of the financial affairs of an enterprise. A partnership or a corporation, for example, may be reorganized or liquidated. Fundamentally, this is a legal problem requiring the services of an attorney. However, management will need an accountant to assist in making a special investigation and to prepare a financial report outlining the effect of the changes upon the financial affairs of the concern.

Taxation The multitude of taxes, such as income taxes, sales taxes, property taxes, inheritance taxes, gift taxes, and social security taxes, and the multiplicity of taxing authorities and reports, call upon the accountant's special talents and training to assist the taxpayer in complying with these regulations.

QUESTIONS

1. What is the purpose of studying basic concepts in an elementary course in accounting?
2. What is the difference between an art and a science and how does this difference apply to the study of accounting?
3. In what respect is accounting statistical in its approach?
4. Apart from its fundamental objective of income determination for the in-

dividual economic enterprise, does the accounting art offer its services elsewhere?

5. Are the principles of accounting fundamentally the same as the principles of the natural sciences?
6. Are the principles of accounting static?
7. What is the ultimate end of any scientific inquiry? Is this end equally valid to the practice of accounting?
8. Does the word "cost" mean the same thing to all people? What does it mean to the accountant?
9. Why is cost the generally accepted basis of asset valuation? What is one assumption the accountant makes when he assigns a cost to an asset?
10. When is an accountant justified in adjusting cost to value?
11. What do the expressions "over-capitalization" and "under-capitalization" mean? What can the accountant do to prevent this condition?
12. What is the distinction between the terms "cost" and "expenditure"?
13. Describe the two classes of expenditures.
14. How does an expense differ from an expenditure?
15. Why is the problem of expense recognition so important in accounting?
16. A business enterprise loses a law suit and is penalized for several thousands of dollars in damages. Is the payment of the damages an expenditure? —an expense?—a loss? Assuming that the payment of the damages will cause the enterprise to show a deficit, is the accountant justified in capitalizing the amount of the damages?
17. Explain the purpose of the diagram on page 327.
18. Is a contract for a series of radio programs extending over several years a prepaid expense or a deferred charge?
19. Distinguish between the terms revenue, income, and profit.
20. A salesman takes an order for future delivery. Is this revenue to his employer? Why?
21. To what extent are the principles of accounting binding upon the accountant?
22. Of the principles of accounting developed in this chapter, which principle is the most significant?
23. Is "conservatism" a rule or a principle?
24. What is meant by the Principle of Full Disclosure?
25. List the various classes of accounting activity and explain the nature of the service performed.

PROBLEMS

Problem 15-1

An accounting principle has been violated in each of the following transactions. State the principle involved and explain why it is a violation. Explain the procedure to correct the violation.

(A) An order for $10,000 received on the last day of the month is recorded as a sale, although shipment was not made until the following month.
(B) The merchandise in the preceding transaction is included in the inventory at the end of the month.
(C) A machine constructed on the premises by the company's employees

was capitalized at an amount for which the machine could have been purchased. The purchase price was higher than the company's costs. The difference was credited to an income account.

(D) A company recorded depreciation when its net income was high and failed to record it when it suffered a net loss.

(E) A company issued several purchase orders for the purchase of the component parts of a machine costing $100,000. The parts were assembled on the premises by the company's employees. Several invoices were received for the parts that were charged to an expense account.

Problem 15-2

An adjusted trial balance, poorly arranged, is presented below. The company's inventory at December 31 is $8,280.00.

CHOATE COMPANY
Adjusted Trial Balance
December 31, 1962

Estimated income tax payable		$ 1,010.00
Inventory, January 1, 1962	$ 8,100.00	
Cash	6,100.00	
Organization expense	1,000.00	
Accounts receivable	7,200.00	
Deposit on lease on store	1,000.00	
Store equipment	4,000.00	
Sales returns	800.00	
Purchases returns		1,400.00
Investment in securities	3,000.00	
Allowance for doubtful accounts		672.00
Accumulated depreciation—Store equipment		1,200.00
Sales discounts	1,200.00	
Prepaid insurance	1,000.00	
Purchases discount		900.00
Purchases	81,000.00	
Transportation-in	650.00	
Transportation-out	350.00	
Sales		130,000.00
Prepaid rental income		1,000.00
Accounts payable		8,200.00
Flood loss	6,000.00	
Depreciation expense—Store equipment	400.00	
Store rent	2,400.00	
Advertising	2,700.00	
Salesmen's commissions	21,000.00	
Rental income		1,000.00
Dividends	300.00	
Capital stock		6,000.00
Retained earnings		6,248.00
Insurance expense—Store equipment	120.00	
Office salaries	6,000.00	
Bad debt expense	590.00	
Miscellaneous expense—Office	1,710.00	
Income tax	1,010.00	
	$157,630.00	$157,630.00

Required:

(A) A *combined* Statement of Income and Retained Earnings.

(B) A classified balance sheet.

Problem 15-3

A company has been paying its salesmen a base salary of $400 per month plus a commission of 5% on sales. A proposal has been made to discontinue the base salary and pay salesmen a commission of 6% up to 10,000, 7% from 10,000 to 15,000, 8% from 15,000 to 20,000, 9% from 20,000 to 25,000, and 10% over 25,000.

Required:

(A) Prepare a tabulation comparing the two methods of payment, showing the earnings of a salesman at the following sales volumes:

$10,000	$25,000
15,000	30,000
20,000	

(B) Prepare two sets of graphs; one set showing the total costs of fixed and variable costs of salesmen's earnings at varying sales volumes; and the other showing the per unit cost of fixed and variable cost at varying sales volumes based on the figures used in the current plan of payment.

(C) Prepare a graph showing the total cost of a salesman's earnings in relationship to sales according to the proposed plan.

Problem 15-4

Explain whether the following transactions give rise to a *capital* expenditure, a *revenue* expenditure, or *neither*. Indicate the account or accounts to be debited.

(a) The payment of a note and interest.
(b) The purchase of a desk for the office.
(c) The purchase of merchandise for sale.
(d) The repair of a roof on a building.
(e) The replacement of the roof on a building with a new roof.
(f) Overhauling a typewriter at a cost of $50.
(g) The purchase of $1,000 worth of book matches to be used for advertising purposes.
(h) The payment of a five-year insurance premium.
(i) The payment of $10,000 for legal services arising out of a law suit.

Problem 15-5

Discuss the nature of the following costs and how they should be recorded on the books of account:

(A) A single proprietor believes that he is entitled to a salary from his business. Accordingly, he pays himself $15,000 and tells the accountant to debit it to "Salary" expense.

(B) A company owns a factory and several branch retail stores. When it sends merchandise to one of its stores, a branch store Inventory account is debited for the selling price of the merchandise.

SUPPLEMENTARY PROBLEMS

Problem 15-6

Comment upon the following statement:

"Accounting is not a science. Given the same set of records, two accountants working independently will often arrive at substantially different amounts of net income for the same business enterprise for the same period of time. Accounting is therefore unreliable."
(Form 24)

Problem 15-7

Comment upon the following and their significance in the preparation and use of accounting information:

(a) An "arms-length" transaction.
(b) Full disclosure.
(c) Conservatism.
(d) Consistency.

(Form 24)

16

Cash

Cash in the Balance Sheet

Cash received usually consists of coin, currency, and various types of demand drafts such as personal checks, cashier's checks, bank drafts, and money orders. All cash receipts should be deposited promptly in the bank. Commonly, all cash receipts are recorded in the cash receipts journal as debits to the Cash account. Commonly, all cash disbursements are recorded in the cash disbursements journal as credits to the Cash account. Cash disbursements are made by checks drawn on the bank account. Thus, the Cash account in the ledger represents cash in the bank. Instead of "Cash," the name of the bank may be used as the title of the account. The balance of the Cash account may be shown in the balance sheet as "Cash in Bank."

In addition to "Cash in Bank," the balance sheet of an enterprise may show "Cash on Hand." The cash on hand may consist of receipts not yet deposited, change funds, and petty cash funds. The cash on hand may be combined with the cash in bank and the total shown, in the balance sheet, as "Cash in Bank and on Hand," or as "Cash."

Commonly, "Cash" is the first item shown under the Current Asset caption in the balance sheet. If cash has been set aside for special purposes, it should be shown separately in the balance sheet. Such cash may be in the hands of trustees or other custodians. Cash that has been set aside for special purposes may be restricted to the extent that it cannot be classified as a current asset.

Internal Control of Cash

General methods and measures that are usually adopted by management in establishing an adequate system of internal control for cash include the following:

1. Systematic internal business routines are followed in regard to the handling and recording of cash receipts and cash disbursements. Printed forms serve as a basis for the systematic business routines. Some of the forms are prenumbered and, in such cases, every form may be accounted for.
2. The responsibilities and duties of the various employees who handle cash and record cash transactions are divided and interrelated in such a manner that: (1) the occurrence of errors is minimized, (2) the errors that do occur are likely to be detected, and (3) fraud cannot be concealed without collusion.
3. Persons having access to the cash do not have access to the cash journals or the accounts that are affected by the cash transactions.
4. The handling and recording procedures for cash receipts are separate from the handling and recording procedures for cash disbursements.
5. All cash receipts are deposited promptly in the bank, intact.
6. All cash disbursements, with the exception of petty cash disbursements, are made by check.
7. The imprest system of petty cash is used.
8. The bank account is reconciled by a person who is not directly involved in the handling or recording of cash receipts and disbursements.

The internal business routines and the specific methods and measures adopted to assure an adequate system of internal control of cash vary among business enterprises. The exact system will depend upon many factors, including the following: the size of the business, the nature of the cash transactions, and the number of employees. The system described in the following example is indicative of the routines and other measures that may be used to achieve effective internal control of cash.

X Company
Internal Control of Cash

Cash Receipts

1. At X Company, there are very few receipts over the counter. Prenumbered receipts are issued to the parties from whom the cash is received and the cash is "rung-up" on the cash register in the presence of the payer. Each receipt shows the purpose for which the cash was received. A copy of each receipt is sent to the bookkeeper. At the end of each day, the cash is sent to the cashier. The daily totals and the numerical sequence of the receipts are checked each day by the assistant auditor. He also checks the daily total of the cash register tape.

2. The clerk who opens the mail lists all remittances in detail. The list shows the name of the sender, the purpose for which the remittance is made and the amount. The mail clerk retains a copy of the list and

distributes copies as follows: (1) a copy to the cashier along with the cash received, (2) a copy to the bookkeeper, and (3) a copy to the auditor.

3. The cashier prepares the deposit ticket in duplicate. At the end of each day the deposit is placed in the night depository of the bank by the assistant cashier. The duplicate copy of the deposit slip is receipted by the bank and mailed directly to the auditor.

4. The bookkeeper records the transactions in the cash receipts journal from the mail remittance list and the copies of the prenumbered receipts. She checks the numerical sequence of the receipts before recording them.

5. The auditor makes a daily check to ascertain that the total of the duplicate deposit ticket agrees with the total cash receipts for the day as shown by the cash receipts journal and as shown by the total of the mail remittance list plus the total of the prenumbered receipts.

Cash Disbursements

1. At X Company, the voucher system is in use. Systematic routines similar to those described in Chapters 12 and 14 are used in approving invoices and bills for payment. These routines are an essential part of the system of internal control for cash disbursements.

2. At X Company, a check is written to pay a voucher only after the voucher has been approved for payment by the chief accountant. The assistant treasurer and the secretary of the company are authorized to sign checks. The secretary signs checks if the assistant treasurer is absent. A check is not signed until the signer has reviewed the voucher that has been approved for payment. At X Company, all checks must be countersigned by the treasurer or by the vice-president. The vice-president countersigns checks if the treasurer is absent. The countersigner also reviews the approved voucher before placing his signature on the check.

3. Persons authorized to sign checks have nothing to do with the routines for approving invoices and bills for payment. The authorized check signers do not have access to the cash and they have no authority to make entries in the cash journals.

4. All checks are prenumbered. Voided checks are retained in the files after being stamped "Void." The sequence of check numbers is accounted for when the bank account is reconciled.

General

1. At X Company, the auditor reconciles the bank accounts. The bank statements are mailed directly to the auditor by the bank.

2. The imprest system of petty cash is in use.

At X Company, few errors are made in the handling and recording of cash. It is unlikely that an error made in the recording of cash will

be undetected. It is impossible to conceal fraud in connection with cash unless there is collusion.

Remittance Advices

All checks that are issued should be accompanied by an explanation of the purpose of the remittance. Oral explanations may suffice for over-the-counter transactions but, generally, it is desirable to submit a written explanation with the check. The written explanation may be in one of the following forms:

1. A letter.
2. A copy of the voucher for the disbursement (see Chapter 14).
3. A voucher check. This is a check which shows the purpose of the remittance on a form provided on the face of the check.
4. A remittance advice or remittance slip. Usually, a remittance advice has a perforated attachment to the check. The remittance advice is detached by the payee before the check is deposited.

A check with an attached remittance advice is shown below.

99-86
114

Date March 15 1961 No. 234

Pay to the order of The Foster Advertising Company $ 50.00

Exactly fifty.....Dollars

FIRST NATIONAL BANK
CLEVELAND, OHIO

The Ballard Company
R G Small
Treasurer

104-51

.....

The Ballard Company — Remittance Advice — No. 234

Description	Date	Your No.	Amount	Deductions	Net Amount
506-Advertising	Feb. 28	171	50.00	-0-	50.00

Detach before Depositing

Deposit Ticket

The cash to be deposited is listed on a printed form that is supplied by the bank. A specimen of this form, which is known as a *deposit ticket,* appears below. The total amount of currency is shown on the deposit ticket as one item, and the total amount of coin is shown on the deposit ticket as one item. Each check is listed separately on the deposit ticket.

Deposit tickets are usually prepared in duplicate. The bank keeps the original and returns the copy to the depositor after it is stamped by the teller, to acknowledge receipt of the deposit.

Deposited with
FIRST NATIONAL BANK
Cleveland, Ohio

Date_____19____

For the Checking Account of

Name_____

Account Number_____

Items received for deposit are subject to rules and regulations of First National Bank governing commercial accounts

Please list each check separately

Currency		
Coin		
Checks		
Total		

Deposit Ticket

The Bank Statement

The Cash account in the general ledger is an asset account. The balance of the account represents cash in the bank, because all receipts are deposited in the bank and all disbursements are checks drawn on the bank account.

On the bank's records, the account of each depositor is a liability. The account of the depositor is *credited* for each deposit received and the account is *debited* for each check paid. The bank credits the depositor's account when the deposit is *received by the bank.* The bank debits the depositor's account when the check is *paid by the bank.* Cash receipts are entered in the cash receipts journal of the depositor as of the day they are received. Checks are entered in the cash disbursements journal of the depositor as of the day they are issued.

Each month the bank renders to the depositor a statement of his account. The statement shows: (1) the balance at the beginning of the month, (2) the deposits and other credits during the month, (3) the checks paid and other debits during the month, and (4) the balance at the end of the month. The checks that have been paid by the bank during the month are returned to the depositor with the bank statement. Copies of debit and credit memoranda that have affected the account are also included with the bank statement, even though other copies of these memoranda were mailed to the depositor when his account was debited and/or credited. The bank may have credited the depositor's account to correct errors or to record amounts collected for the depositor. The bank may have debited the depositor's account for service charges, check-printing charges, for deposit items that proved uncollectible, and for error corrections. Many banks do not submit debit memoranda in regard to service charges. Such charges are usually designated on the bank statement by the symbol SC.

Usually, the balance of cash as shown by the bank statement does not agree with the balance of cash as shown by the Cash account of the depositor. The depositor should reconcile the bank statement with his own records as soon as possible after the statement has been received. Any errors that are discovered should be promptly corrected. Transactions that have occurred but that are not recorded on the books may be disclosed. Proper entry must be made for such transactions.

A bank statement is shown on page 350.

Statement of Your Account

Boone Dress Company
142 Bookar Building
Glenn at East 7th
Cleveland, Ohio

44-119

Checks		Deposits	Date	Balance
		Balance Forward	Feb. 28, 61	320.00
		200.00 ✓	Mar. 1, 61	520.00
250.00		100.00	Mar. 2, 61	370.00
30.00			Mar. 3, 61	340.00
220.00			Mar. 6, 61	120.00
		300.00	Mar. 7, 61	420.00
260.00		520.00	Mar. 10, 61	680.00
100.00			Mar. 14, 61	580.00
200.00	20.50		Mar. 15, 61	359.50
		125.00	Mar. 17, 61	484.50
		675.00	Mar. 20, 61	1,159.50
125.00 DM			Mar. 21, 61	1,034.50
1.00 SC			Mar. 27, 61	1,033.50
		201.00 CM	Mar. 30, 61	1,234.50
340.00	200.00	240.00	Mar. 31, 61	934.50

Last amount in this column is your balance

Symbols

DM—Debit Memo
CM—Credit Memo
SC—Service Charge
EC—Error Corrected
LS—List of Checks

Please examine at once. If no error is reported within ten days, account will be considered correct.

FIRST NATIONAL BANK
CLEVELAND, OHIO

Bank Statement

Causes of Differences Between Bank Statement Balance and Book Balance The difference between the balance shown by the bank statement and the balance shown by the depositor's records may have been caused by:

1. Items debited to the Cash account on the depositor's records that have not been credited on the bank statement. (The commonest example is a deposit not yet received by the bank. Such a deposit may be in the night depository of the bank or it may be in transit in the mails. Deposits that are made on the last day of a month after the bank has closed for the day are usually recorded on the bank statement on the first business day of the following month.)

2. Items credited to the Cash account on the depositor's records that have not been debited (charged) on the bank statement. (The commonest example is a check not yet paid by the bank. There may be many of these outstanding checks.)

3. Items debited to the account of the depositor on the bank's records (charges on the bank statement) that have not been credited to the Cash account on the depositor's records. (Bank service charges are a common example. Other examples are bank debit memoranda that have not been entered on the depositor's records.)

4. Items credited to the account of the depositor on the bank's records (credits on the bank statement) that have not been debited to the Cash account on the depositor's records. (Examples are bank credit memoranda that have not been entered on the depositor's records.)

5. Errors in the amounts that are recorded for the items.

Reconciling the Bank Account The March, 1961, bank statement of Boone Dress Company is illustrated on page 350. The balance shown by the bank statement at March 31, 1961, is $934.50. The Cash account in the ledger of Boone Dress Company appears as follows:

Cash

				Dr.	Cr.	Balance
1961						
Feb.	28	Balance		390.00		390.00
Mar.	31		CR 3	2,140.00		
	31		CD 3		1,720.50	809.50

The balance shown by the Cash account at March 31, 1961, is $809.50. A bank reconciliation is to be prepared as of March 31, 1961. The steps followed in the process of reconciling the bank account of Boone Dress Company are typical ones. The process of reconciling the March bank statement with the Cash account of Boone Dress Company involves the steps that are listed, discussed, and illustrated below:

1. Obtain, from the files, the bank reconciliation of February 28, 1961.

BANK RECONCILIATION, FEBRUARY 28, 1961

Bank statement balance		$320.00
Add deposit in transit		200.00 ✓
		$520.00
Deduct outstanding checks:		
#119	$ 30.00 ✓	
#120	100.00 ✓	130.00
Book balance		$390.00

(Notice that the bank balance on this reconciliation agrees with the February 28, 1961, balance that appears on the March bank statement and that the book balance shown on the reconciliation agrees with the balance shown by the Cash account at February 28, 1961.) Trace the deposit in transit shown by the February 28 reconciliation to the March bank statement. Observe that the $200 deposit in transit is credited on

the bank statement on March 1. Use a check mark, as illustrated, to indicate that the item has been verified.

2. Arrange in numerical order the cancelled checks that were returned with the March bank statement. After sorting, checks paid that were outstanding at the close of the preceding month will be on top. Compare these checks with the outstanding checks shown by the reconciliation of the preceding month. Both of the checks that were outstanding at February 28 were paid by the bank during March—Check No. 119 was paid on March 3, and Check No. 120 was paid on March 14. Check off these items, as illustrated, on the reconciliation of February 28. (If these checks had not been paid by the bank during March, they would be listed as outstanding checks at the end of March.)

3. The March 1 entry, of $200, in the Deposits column of the bank statement was verified as a deposit in transit at February 28. Compare the other items appearing in the Deposits column of the bank statement with the daily totals of receipts as shown by the cash receipts journal and check off all items that are in agreement. The Cash Debit column of the cash receipts journal and the Deposits column of the bank statement are shown below as they appear after this step has been completed.

CASH RECEIPTS JOURNAL		BANK STATEMENT	
Date	Cash Debit	Deposits	Date
1961			
Mar. 1	100.00 ✓	200.00 ✓	Mar. 1, 61
6	300.00 ✓	100.00 ✓	Mar. 2, 61
9	520.00 ✓	300.00 ✓	Mar. 7, 61
16	125.00 ✓	520.00 ✓	Mar. 10, 61
17	675.00 ✓	125.00 ✓	Mar. 17, 61
30	240.00 ✓	675.00 ✓	Mar. 20, 61
31	180.00	201.00 CM	Mar. 30, 61
		240.00 ✓	Mar. 31, 61
	2,140.00		

List any unchecked items in the Cash Debit column of the cash receipts journal. Unchecked items are usually deposits in transit. The unchecked $180 cash receipt of March 31 is a deposit in transit. Boone Dress Company has the duplicate deposit ticket that the bank has stamped acknowledging receipt of the deposit on April 1, 1961.

List any unchecked items in the Deposits column of the bank statement. Usually, these items represent credits by the bank that have not been recorded by the depositor. One unchecked item appears in the Deposits column of the bank statement—the credit of $201 dated March 30, 1961. The credit memo was received by Boone Dress Company after the March cash journals had been posted. Boone Dress Company, on March 27, sent to the bank for collection a note receivable that was due on April 1. The maker of the note paid the note at the bank on March

30. In listing this item, show the details as they appear on the credit memo:

Face of the note	$200.00
Interest on the note	2.00
Maturity value of the note	$202.00
Bank collection charge	1.00
Amount of the credit memo	$201.00

4. Compare the cancelled checks that have March issuance dates with the checks issued in March as shown by the cash disbursements journal and check off, in the cash disbursements journal, those checks that the bank has paid. List all unpaid (outstanding) checks and list discrepancies in regard to paid checks if there are any. The Cash Credit column of the cash disbursements journal is shown below as it appears after this step has been completed. Two checks of Boone Dress Company are outstanding at March 31, 1961—#126 and#129.

CASH DISBURSEMENTS JOURNAL

Check No.	Cash Credit
121	250.00 ✓
122	220.00 ✓
123	260.00 ✓
124	20.50 ✓
125	200.00 ✓
126	50.00
127	340.00 ✓
128	200.00 ✓
DM	125.00
129	55.00
	1,720.50

5. Compare any other charges shown by debit memoranda and/or the bank statement with entries appearing on the books for these items. List any of these items that have not been recorded on the books. The $1 service charge, appearing on the bank statement on March 27, has not been recorded on the books. The $125 debit memo appearing on the bank statement on March 21, has been entered in the cash disbursements journal of March. This debit memo is for an NSF check. The bank charges all uncollectible items of deposit back to the depositor. The commonest reason for items being uncollectible is that the bank account of the drawer of the check does *not* contain *sufficient funds* to pay the check. Such checks are referred to as NSF checks. The $125 check was credited to Accounts Receivable when it was received and, therefore, the debit memo is recorded as a debit to the Accounts Receivable account. The $125 check was recorded in the cash receipts

journal on March 16, and it was credited on the bank statement on March 17.

6. Prepare a statement showing the reconciliation of the bank statement balance with the book balance as of the end of the month. The bank reconciliation of March 31 for Boone Dress Company may appear as follows:

BANK RECONCILIATION—MARCH 31, 1961

Book balance before adjustment		$ 809.50
Add proceeds of note:		
Face of note	$200.00	
Interest on note	2.00	
Maturity value of note	$202.00	
Bank collection charge	1.00	201.00
		$1,010.50
Deduct March service charge		1.00
Adjusted book balance		$1,009.50
Bank statement balance		$ 934.50
Add deposit in transit		180.00
		$1,114.50
Deduct outstanding checks:		
#126	$ 50.00	
#129	55.00	105.00
Adjusted book balance		$1,009.50

Some accountants prefer the form shown below:

BANK RECONCILIATION—MARCH 31, 1961

Bank statement balance			$ 934.50
Add:			
Deposit in transit		$180.00	
March service charge		1.00	181.00
			$1,115.50
Deduct:			
Outstanding checks:			
#126	$ 50.00		
#129	55.00	$105.00	
Proceeds of note:			
Face of note	$200.00		
Interest on note	2.00		
Maturity value of note	$202.00		
Bank collection charge	1.00	201.00	306.00
Book balance before adjustment			$ 809.50
Adjustments:			
Add proceeds of note			201.00
			$1,010.50
Deduct March service charge			1.00
Adjusted book balance			$1,009.50

Adjustments Disclosed by Reconciliation of Bank Account Transactions that are properly recorded on the bank statement may not have been entered on the records of the depositor. If such transactions exist, they are discovered in the process of reconciling the bank account. The bank reconciliation statement indicates the "adjusting" entries that are to be made on the depositor's records. Commonly, the cash journals have been posted and ruled and, therefore, the entries are made in the general journal. (If the cash journals have not been posted, the entries may be made in these journals.) The journal entries to record transactions that were discovered in the process of reconciling the March bank statement of Boone Dress Company are shown below:

1961					
Mar.	31	Cash		201.00	
		Miscellaneous general expense		1.00	
		Notes receivable			200.00
		Interest income			2.00
		To record collection of note receivable by First National Bank			
	31	Miscellaneous general expense		1.00	
		Cash			1.00
		To record bank service charge of March			

Corrections are made for any errors that are discovered in the process of reconciling the bank account. Journal entries may be needed to correct errors (see Chapter 6).

Memo Deposit Column

If there are several receipts of cash each day, pencil footings may be used to show the daily totals that are deposited in the bank. In some enterprises, a separate *Memo* column is provided in the cash receipts journal to show the amounts of the deposits. In some enterprises, a Memo column is used to show the individual cash receipts and only the daily total is entered in the Cash Debit column of the cash receipts journal.

Certified Checks

A certified check is not treated as an outstanding check since the check has been deducted from the drawer's account at the time of certification. At the subsequent date when the check is paid by the bank, it is not

charged to the drawer's account. Payment of a certified check is guaranteed by the bank on which it is drawn. The face of the check designates the fact that it has been certified by the bank.

Current Balance of Cash Account

The Cash account in the general ledger does not show the balance of cash in bank until the end of the month when the cash journals are posted. The balance at the end of each day may be shown on the check stubs. Some companies prepare carbon copies of the checks and do not make use of check stubs. In such a case, the daily balance of cash in bank may be shown by memo entries in the cash journals or by the use of a separate memo record. Such a record shows the total receipts, the total disbursements, and the balance for each day.

Cash on Hand

Commonly, all receipts of cash are recorded in the cash receipts journal as debits to the Cash account. The balance of this account is shown in the balance sheet as "Cash in Bank." This is proper because all cash receipts are deposited promptly in the bank. Although deposits may be made daily, the deposit for a day (the receipts of that day) may be made on the following day. If the receipts of the last day of the fiscal period are deposited on the following day, they are undeposited receipts at the close of the fiscal period and they should be shown in the balance sheet as "Cash on Hand."

Change funds and petty cash funds are shown in the balance sheet as "Cash on Hand." A change fund may be established by issuing a check for the desired amount and by cashing the check to obtain the money for the fund. An account entitled "Change Fund" or "Cash on Hand" is debited. No additional entries are made in this account unless the amount of the fund is increased or decreased.

Petty Cash Fund

It is convenient and sometimes necessary to make minor disbursements in money rather than by issuing a check. Such minor disbursements are made from a *petty cash fund.* The imprest system of petty cash is discussed and illustrated in the following paragraphs.

The petty cash fund is established by issuing a check for the amount of the fund. The entries, for an enterprise that uses the voucher system, are as follows:

IN THE VOUCHER REGISTER

1960 Dec.	2	Petty cash		50.00	
		Vouchers payable			50.00

IN THE CHECK REGISTER

1960 Dec.	2	Vouchers payable		50.00	
		Cash			50.00

The money is usually kept in a petty cash box in a safe place in the office. One person, sometimes called the petty cashier, may be responsible for the petty cash fund.

A petty cash voucher should be prepared for each expenditure from the fund. A completed petty cash voucher constitutes a receipt for the expenditure. If a receipted bill or other evidence of the expenditure is obtained, it should be attached to the petty cash voucher. At all times, the sum of the petty cash vouchers plus the actual money in the fund should equal the balance of the Petty Cash account.

The petty cash fund should be replenished before it is exhausted. The amount of the check to replenish the fund is the same as the amount that has been expended from the fund (the sum of the petty cash vouchers). Each petty cash voucher indicates the account, or accounts, to be debited. The journal entries that record these debits are made when the petty cash fund is replenished. No journal entries are made at the time of the petty cash expenditures.

If there are many disbursements from a petty cash fund, a memorandum petty cash record may be maintained. Such a petty cash record is shown on page 358.

PETTY CASH RECORD

Date	Voucher No.	Amount	Delivery Expenses	Misc. Selling Expenses	Misc. General Expenses	Sundry	
						Account	Amount
1960							
Dec. 2	101	5.95				Office supplies	5.95
5	102	1.55		1.55			
7	103	8.00		2.00	6.00		
12	104	2.00	2.00				
15	105	6.00		2.00	4.00		
19	106	2.15				Freight-in	2.15
22	107	9.00		5.00	4.00		
23	108	3.00	3.00				
26	109	1.01				Office supplies	1.01
29	110	1.42		1.42			
29	111	1.00	1.00				
30	112	2.00			2.00		
		43.08	6.00	11.97	16.00		9.11

The company that maintains this petty cash record has a petty cash fund of $50. The amount of money in the petty cash box on December 2, prior to the use of Petty Cash Voucher No. 101, was $50. The fund may have been established on December 2, or it may have been replenished on that date. Since the replenishment (or establishment) of the fund on December 2, petty cash disbursements in the amount of $43.08 have been made. Money in the petty cash box on December 31 amounts to $6.92. The amount of the check to replenish the petty cash fund is $43.08, and the following entries are made:

IN THE VOUCHER REGISTER

1960					
Dec.	31	Delivery expenses		6.00	
		Miscellaneous selling expenses		11.97	
		Miscellaneous general expenses		16.00	
		Office supplies		6.96	
		Freight-in		2.15	
		Vouchers payable			43.08

IN THE CHECK REGISTER

1960					
Dec.	31	Vouchers payable		43.08	
		Cash			43.08

If the voucher system is not in use, the entry to replenish the petty cash fund is made in the cash disbursements journal. The entry is as follows:

(CASH DISBURSEMENTS JOURNAL)

1960					
Dec.	31	Delivery expenses		6.00	
		Miscellaneous selling expenses		11.97	
		Miscellaneous general expenses		16.00	
		Office supplies		6.96	
		Freight-in		2.15	
		Cash			43.08

You will note that the entries that are made to record the replenishment of the petty cash fund do not affect the Petty Cash account. A debit entry, for the amount of the fund, is recorded in the Petty Cash account at the time the fund is established. The account contains no other entries unless the amount of the fund is increased or reduced.

The petty cash vouchers should be reviewed and approved by a responsible official before the petty cash fund is replenished. The petty cash vouchers should be marked to indicate that they have been paid, and they should be retained in the files in support of the reimbursement voucher or check. The petty cash fund should be replenished at the end of each accounting period so that the expenditures are recorded in the ledger in the period in which they are made.

Cash Over and Short

Errors made in the process of disbursing petty cash may cause a shortage or overage in the fund. Let us assume that there is a shortage in the fund of the company whose petty cash records are shown above. The amount of money in the petty cash box at December 31, prior to replenishment of the fund, is $6.50 instead of $6.92. There is a shortage of $.42. Although the petty cash record shows expenditures of $43.08, the amount of the check to replenish the fund is $43.50. The voucher register entry is as follows:

1960					
Dec.	31	Cash over and short		.42	
		Delivery expenses		6.00	
		Miscellaneous selling expenses		11.97	
		Miscellaneous general expenses		16.00	
		Office supplies		6.96	
		Freight-in		2.15	
		Vouchers payable			43.50

Let us assume that there is an overage in the petty cash fund. The amount of money in the petty cash box at December 31, prior to replenishment of the fund, is $7 instead of $6.92. There is an overage of $.08.

Although the petty cash record shows expenditures of $43.08, the amount of the check to replenish the fund is $43. The voucher register entry is as follows:

1960					
Dec.	31	Delivery expenses		6.00	
		Miscellaneous selling expenses		11.97	
		Miscellaneous general expenses		16.00	
		Office supplies		6.96	
		Freight-in		2.15	
		Cash over and short			.08
		Vouchers payable			43.00

Errors in handling cash receipts and in making change may cause shortages and overages. Let us assume that a cash register tape for a day shows cash sales of $69.30, but that the amount of cash in the register, in excess of the change fund, is only $69. The entry to record the cash sales for the day may be as follows:

		Cash		69.00	
		Cash over and short		.30	
		Sales			69.30

The Cash Over and Short account has a credit balance if cash overages during an accounting period exceed cash shortages. The credit balance may be shown in the Other Revenues section of the income statement as miscellaneous income. The Cash Over and Short account has a debit balance if cash shortages during an accounting period exceed cash overages. The debit balance may be shown in the Other Expenses section of the income statement as miscellaneous expense. Shortages are more common than overages and the net shortage is usually a minor amount. The shortage may be shown as miscellaneous general expense.

Two or More Regular Bank Accounts

If an enterprise maintains two or more bank accounts in which receipts are deposited and on which checks are drawn, a separate general ledger account is maintained by the enterprise for each bank account. Usually, the bank names are used as the account titles and an account entitled "Cash" is *not* used. A separate debit column is provided in the cash receipts journal for each bank. A separate credit column is provided in the cash disbursements journal for each bank. A separate bank recon-

ciliation is made for each bank account. In the balance sheet, the ledger bank accounts are combined and shown as "Cash in Banks."

Special Bank Accounts

Many enterprises, especially those with a large number of employees, make use of a special payroll bank account in paying the employees. The checks to the employees are drawn on the payroll bank account rather than on the regular bank account. The subject is covered in Chapter 20. Special bank accounts may be used to pay other obligations, such as dividends and bond interest.

Bank Overdraft

A bank overdraft results when the checks drawn by a depositor exceed his deposits in the account. The ledger bank account has a credit balance. This credit balance should be shown in the balance sheet as a current liability. The credit balance should not be offset against debit balances in accounts with other banks.

QUESTIONS

1. Why should all cash receipts be deposited promptly in the bank?
2. Is each check for deposit listed separately on the deposit ticket?
3. What items are shown on the statement of account that the bank renders each month to the depositor?
4. What is an NSF check?
5. Should the balance of the Cash in Bank account in the general ledger be adjusted for the following items?

   (a) A deposit in transit.
   (b) A bank service charge.
   (c) An NSF check charged back by the bank.
   (d) An outstanding check.
   (e) A bank error charging our account with the incorrect amount of a check.
   (f) A check recorded in the cash disbursements journal as a debit to the incorrect expense account.

6. Should the amount of a certified check be included in the total for outstanding checks that is used in reconciling the bank account?
7. Indicate which of the following items are properly included in the balance sheet under the heading of "Cash on Hand":

   (a) A change fund.
   (b) A debit balance in the Cash Over and Short account.

(c) Currency and coin in the petty cash box.
(d) Petty cash disbursement vouchers in the petty cash box. (The petty cash fund was not replenished at the end of the fiscal period.)
(e) Undeposited receipts of the last day of the fiscal period.

8. (a) What entry is made in the Petty Cash account at the time the fund is established? (b) What entry is made in the Petty Cash account at the time the fund is replenished?
9. How should the balance of the Cash Over and Short account be shown in the financial statements?
10. How should a bank overdraft be shown in the financial statements?

PROBLEMS

Problem 16-1

The bank reconciliation of Banrest Company as of January 31, 1961, is shown below:

BANK RECONCILIATION, JANUARY 31, 1961

Bank balance		$150.00
Add deposit in transit		300.00
		$450.00
Deduct outstanding checks:		
#114	$120.00	
#115	80.00	
#116	30.00	230.00
Book balance		$220.00

All receipts of cash are deposited in the bank account.

The bank statement for the month of February, 1961, is presented below:

FOREST COUNTY BANK

Checks		Deposits	Date	Balance
		Balance Forward	Jan. 31, 61	150.00
120.00		300.00	Feb. 1, 61	330.00
		1,000.00	Feb. 3, 61	1,330.00
900.00	100.00		Feb. 5, 61	330.00
		200.00	Feb. 7, 61	530.00
80.00			Feb. 9, 61	450.00
		500.00	Feb. 10, 61	950.00
250.00			Feb. 13, 61	700.00
		600.00	Feb. 16, 61	1,300.00
		640.00	Feb. 21, 61	1,940.00
275.00			Feb. 23, 61	1,665.00
1.50 SC			Feb. 24, 61	1,663.50
787.00		280.00	Feb. 27, 61	1,156.50
450.00		504.00 CM	Feb. 28, 61	1,210.50

The following information was taken from the credit memo of February 28:

Collection of note receivable:	
Face of the note	$500.00
Interest on the note	5.00
Maturity value of the note	$505.00
Collection charge	1.00
Credit to your account	$504.00

The data below were taken from the cash journals of Banrest Company.

Cash Receipts Journal		Cash Disbursements Journal		
Date	Debit Cash	Check No.	Credit Cash	
1961				
Feb. 2	1,000.00	117	100.00	
6	200.00	118	900.00	
9	400.00	119	450.00	
9	100.00	120	250.00	
15	600.00	121	275.00	
20	640.00	122	90.00	
24	280.00	123	787.00	
28	225.00	124	60.00	
		125	20.00	
	3,445.00		2,932.00	

Required:

(A) Prepare the company's bank reconciliation as of February 28, 1961, showing the book balance before and after adjustment.

(B) Prepare general journal entries to record the adjustments that are indicated by the bank reconciliation of February 28, 1961.

Problem 16-2

A petty cash fund of $10 was established at Concord Company on May 4, 1961. According to petty cash vouchers, the following disbursements were made from the fund during the month of May:

May 5—Voucher No. 1, $1.25 for freight on merchandise purchased.
10—Voucher No. 2, $1.00 for freight on merchandise sold.
16—Voucher No. 3, $4.00 for supper money.
27—Voucher No. 4, $1.05 for office supplies.
29—Voucher No. 5, $1.75 for supper money.

On May 31, 1961, the petty cash fund was replenished.

At Concord Company, the voucher system is used.

At Concord Company, supper money payments are recorded as miscellaneous general expense.

Required:

(A) Prepare, in general journal form, all journal entries that are made in regard to the above data.

(B) Prepare entires, in general journal form, to record the replenishment of the petty cash fund if the amount of money in the petty cash box is $.75.

Problem 16-3

The bank reconciliation of Marol Company as of December 31, 1963, is shown below:

BANK RECONCILIATION, DECEMBER 31, 1963

Bank statement balance	$12,140
Add deposit in transit	1,260
	$13,400
Deduct outstanding checks (detail attached)	1,700
Book balance	$11,700

The data below appear on the bank statement for the month of January, 1964:

Credits for deposits–$94,216.

Charges (debits) for checks paid–$93,640.

There were no other debits or credits on the January, 1964, bank statement. A deposit of $420 made by Marlot Company was included in error in the credits of $94,216. This error was corrected by the bank on the February, 1964, bank statement.

The Cash account of Marol Company for the month of January, 1964, is shown below:

CASH

				Dr.	Cr.	Balance
1964						
Jan.	1	Balance		11,700.00		11,700.00
	31		CR1	94,100.00		
	31		CD1		93,560.00	12,240.00

All receipts of cash are deposited promptly in the bank account.

Required:

Prepare the bank reconciliation as of January 31, 1964.

SUPPLEMENTARY PROBLEMS

Problem 16-4

The bank reconciliation of Ormon Company as of November 30, 1963, is shown below:

BANK RECONCILIATION, NOVEMBER 30, 1963

Bank statement balance		$2,118.20
Add deposit in transit		920.50
		$3,038.70
Deduct outstanding checks:		
#434	$ 121.30	
#435	60.00	
#436	1,200.00	1,381.30
Book balance		$1,657.40

All receipts of cash are deposited promptly in the bank account.

The bank statement for the month of December, 1963, is presented below:

FIRST NATIONAL BANK

Checks		Deposits	Date	Balance
		Balance Forward	Nov. 30, 63	2,118.20
121.30		920.50	Dec. 2, 63	2,917.40
		820.00	Dec. 3, 63	3,737.40
1,200.00		200.00	Dec. 4, 63	2,737.40
1,100.00	100.00		Dec. 5, 63	1,537.40
		440.50	Dec. 6, 63	1,977.90
255.00	621.50	630.00	Dec. 9, 63	1,731.40
43.90		520.50	Dec. 10, 63	2,208.00
		380.20	Dec. 12, 63	2,588.20
219.70		864.00	Dec. 16, 63	3,232.50
492.00	360.30	1,250.00	Dec. 17, 63	3,630.20
800.00	298.20	662.40	Dec. 19, 63	3,194.40
725.00	62.40 NSF	419.00	Dec. 23, 63	2,826.00
422.40	645.20	928.00	Dec. 24, 63	2,686.40
218.00		200.00	Dec. 27, 63	2,668.40
35.20	178.00	651.30	Dec. 30, 63	3,106.50
552.00	540.50	604.00 CM	Dec. 31, 63	
645.40		835.00	Dec. 31, 63	2,807.60

During December, 1963, the bank charged our account in error with a check drawn by Monor Company. The January, 1964, bank statement will show a credit to offset the charge that appears on the December, 1963, bank statement.

The following information was taken from the credit memo of December 31:

Collection of note receivable:	
Face of the note	$600.00
Interest on the note	6.00
Maturity value of the note	$606.00
Collection charge	2.00
Credit to your account	$604.00

The NSF check was received from George Calon in payment of account. Calon states that he will send a new check in 30 days.

The data shown below were taken from the cash journals of Ormon Company.

CASH RECEIPTS JOURNAL		CASH DISBURSEMENTS JOURNAL	
Date	Debit Cash	Check No.	Credit Cash
1963			
Dec. 2	820.00	437	1,100.00
3	150.00	438	100.00
3	50.00	439	255.00
5	440.50	440	621.50
6	630.00	441	360.30
9	520.50	442	422.40
11	380.20	443	219.70
13	164.00	444	298.20
13	700.00	445	25.00
16	1,250.00	446	492.00
17	62.40	447	35.20
18	600.00	448	800.00
20	419.00	449	725.00
23	423.00	450	645.20
23	505.00	451	218.00
26	200.00	452	178.00
27	651.30	453	552.00
30	325.00	454	540.50
30	510.00	455	645.40
31	275.50	456	182.00
		457	430.00
	9,076.40	458	42.00
			8,887.40

The only entries appearing in the Cash account for the month of December, 1963, are the amounts posted from the cash receipts journal and the cash disbursements journal.

Required:

(A) Prepare the bank reconciliation as of December 31, 1963, showing the book balance before and after adjustment.

(B) Prepare general journal entries to record the adjustments that are indicated by the bank reconciliation of December 31, 1963.

(Forms 3, 1)

Problem 16-5

The bank reconciliation of Rayol Company as of June 30, 1963, is shown below:

BANK RECONCILIATION, JUNE 30, 1963

Bank statement balance	$10,002
Add deposit in transit	2,412
	$12,414
Outstanding checks (detail attached)	4,317
Book balance	$ 8,097

The Cash account of Rayol Company for the month of July, 1963, is shown below:

CASH

				Dr.	Cr.	Balance
1963						
July	1	Balance		8,097.00		8,097.00
	31		CR1	61,112.00		
	31		CD1		62,441.00	6,768.00

All receipts of cash are deposited promptly in the bank account.

The data below appear on the bank statement for the month of July, 1963:
Credits for deposits—$61,886.
Charges (debits) for checks paid—$62,293.
There were no other debits or credits on the July, 1963, bank statement. A check of $200 drawn by Rayott Company was included in error in the charges of $62,293. This error was corrected by the bank on the August, 1963, bank statement.

Required:
Prepare the bank reconciliation as of July 31, 1963.

(Form 3)

Problem 16-6

A petty cash fund of $20 was established at Spode Company on June 19, 1964. According to petty cash vouchers, the following disbursements were made from the fund during the month of June:

June 19—Voucher No. 1, $6.00 for supper money.
20—Voucher No. 2, $4.00 for supper money.
21—Voucher No. 3, $1.00 for freight on merchandise purchased.
25—Voucher No. 4, $1.12 for freight on merchandise sold.
26—Voucher No. 5, $1.20 for freight on merchandise purchased.
30—Voucher No. 6, $4.00 for supper money.

On June 30, 1964, Check No. 645 was written to replenish the petty cash fund and to increase the amount of the fund to $30.

At Spode Company, the voucher system is not in use and the entry to record the replenishment of the petty cash fund is made in the cash disbursements journal. Supper money payments are recorded as miscellaneous general expense.

Required:
(A) Prepare, in general journal form, all journal entries that are made in regard to the above data.
(B) Prepare the entry, in general journal form, to record the replenishment of the petty cash fund and the increase in the amount of the fund if the amount of money in the petty cash box is $2.83.

(Form 1)

17

Receivables and Inventory

RECEIVABLES

Nature of Receivables

Receivables represent claims against others for services rendered, goods sold, loans, advances, and accruals. Receivables that are considered to be collectible during the normal operating cycle of the business are classified under the category of current assets on the balance sheet. Receivables not collectible during the normal operating cycle are classified as non-current assets. In any case, because receivables assume a variety of forms, the account titles they are given should be fully descriptive in order to reflect the nature of the receivables. For example, a loan of money to a customer should be debited to an account titled "Loans Receivable" to be distinguished from sales to customers on account, commonly referred to as "Accounts Receivable-Trade."

Accounts Receivable

In a commercial or an industrial enterprise, the usually encountered form of receivable is one that arises from the sale of a commodity or the performance of a service. Sales made in this manner are said to be made on open-book account. This means that the obligation of the buyer to the seller is not evidenced by a written promise. Open-book accounts are usually supported by a purchase order, a shipping document (such as a bill of lading), and an invoice. The seller is a general creditor of the buyer and therefore has no specific security for his claim

against the buyer. Yet sales of this type are made more frequently than any other type. The accounting procedures for making a sale on account are described in detail in Chapter 12.

Further consideration is now given to the details leading to the approval of the customer's purchase order, the manner in which the customer's account is charged for the sale, and some of the problems connected with the collection of an open account.

Upon receipt of a customer's order, an investigation is made:

1. To determine whether the customer has a balance presently owing on his account, the amount of the balance, and the length of time the balance has been outstanding. The source of this information is the subsidiary accounts receivable ledger.

2. To determine the credit rating of the customer. Has his rating changed since the last sale? Will the new purchase order exceed the credit limits established for the customer? Frequently, the services of credit agencies are utilized as a source of information that will permit a company to judge the nature of the credit risk of a customer or prospective customer.

3. To determine what the experience with the customer has been in the past. For instance, has he paid his account on time? Has he taken discounts to which he was not entitled? This information is frequently noted on the margin of the customer's ledger account for future reference.

After the sale has been approved and recorded in a sales journal, as described on page 71, it is posted to the accounts receivable subsidiary ledger. Two examples of an accounts receivable subsidiary ledger are illustrated on page 370. One is prepared manually, and the other is prepared on a bookkeeping machine. In both examples, the customer's credit rating and credit limits are indicated. The reference to the credit rating (D3 in the illustration) is an example of the type of credit rating used by a commercial credit agency. The letter in the symbol denotes the range of the net worth or owner's equity. The figure classifies the manner in which a company pays its bills, i.e., on time, takes discounts, is slow to pay, and so on.

After the customer's account has been charged with the amount of the sale, the seller faces the problem of collecting the account within the terms of sale granted to the buyer. There are many systems in use to expedite the collection of accounts receivable. One of these is described and briefly explained below. This system is called the *duplicate invoice system.*

At the time an invoice is prepared, several copies of the invoice are made with the use of a billing machine or a bookkeeping machine. The original invoice is mailed to the customer. Practices among companies differ widely as to the number of copies of the invoice and their disposi-

LEDGER
(Machine Posted)

Name THE EVAN COMPANY
Address
Rating D3
Credit Limit $500.00

Sales Year to Date	Date	Reference	Debits	✓	Credits	✓	Balance
123.75 ●	Feb. 15 '62	4,205	(b) 123.75				123.75 ●
157.50 ●	Mar. 10 '62	4,615	(a) 33.75				157.50 ●
	Mar. 20 '62	223			(a) 33.75		123.75 ●
232.50 ●	Mar. 25 '62	4,728	75.00				198.75 ●
266.25 ●	Apr. 16 '62	4,902	33.75				232.50 ●
312.87 ●	May 5 '62	5,001	46.62				279.12 ●
	May 8 '62	321			(b) 33.75		245.37 ●
	May 16 '62	345			(b) 45.00		200.37 ●
391.62 ●	May 28 '62	5,231	78.75				279.12 ●
	May 31 '62	389			(b) 45.00		234.12 ●
398.12 ●	June 5 '62	5,315	6.50				240.62 ●

LEDGER
(Manually Posted)

Name THE EVAN COMPANY
Address
Rating D3
Credit Limit $500.00

Date	Explanation	Folio	Debits		Credits		Balance
1962							
Feb. 15		SJ4205	(b) 123.75				123.75
Mar. 10		SJ4615	(a) 33.75				157.50
Mar. 20		CR223			(a) 33.75		123.75
Mar. 25		SJ4728	75.00				198.75
Apr. 16		SJ4902	33.75				232.50
May 5		SJ5001	46.62				279.12
May 8		CR321			(b) 33.75		245.37
May 16		CR345			(b) 45.00		200.37
May 28		SJ5231	78.75				279.12
May 31		CR389			(b) 45.00		234.12
June 5		SJ5315	6.50				240.62

tion. In many companies, the following departments each receive a copy.

Credit and Collection Department This copy, illustrated on page 372 and referred to as a *collection card,* is made of heavy paper stock to withstand frequent handling. It is filed alphabetically by customer. If there is more than one invoice for a customer, each collection department copy of the duplicate invoice is filed chronologically after the customer's name, with the earliest copy appearing first. The purpose of this copy is to serve as a means of following the collection through to a final settlement.

Accounting Department Instead of a posting being made manually to a subsidiary ledger, this copy, together with the copies of the other unpaid invoices, is filed by customer and thus constitutes the subsidiary accounts receivable ledger.

The invoices written each day are totaled on an adding machine and entered in a sales journal in one amount. The total sales for the month recorded in the sales journal are finally posted as a debit to the Accounts Receivable—control account and as a credit to the Sales account.

When a payment is received, the accounting department's copy of the duplicate invoice is taken from the accounts receivable file, stamped "paid" and filed in a paid reference file with the customer's other paid invoices as an historical record. Each day's total cash receipts from customers are entered in the cash receipts journal in the Cash—Debit column and in the Accounts Receivable—Credit column. (See page 74 for an illustration of a cash receipts journal.) At the end of the month, the total of the Accounts Receivable—Credit column is posted to the Accounts Receivable control account. Also, at the end of the month the unpaid invoices are totaled to prove their agreement with the balance in the Accounts Receivable control account, assuming that copies of credit and debit memoranda have also been filed along with the customers' duplicate invoices.

Sales Department This copy is used by the sales department for statistical purposes. It may also be used as a means of determining the salesmen's commissions.

Shipping Department This copy is inclosed with the customer's shipment so that the clerks in his receiving department will be able to identify the contents of the shipment when it arrives.

Collection Procedures During the operation of this system, the cashier sends a list of the payments received from customers to a clerk in the credit and collection department. The clerk removes the collection copy of the duplicate invoice from the collection file, stamps it with the date paid, and files it in a credit reference file. Each day, the collection department clerk examines the collection cards and picks out those that are currently due and those that are past due. The clerk is assisted

in this examination of the files by the location of a metal or plastic clip placed over the collection card above the date that a reminder should be sent to the customer. A *collection card* is illustrated below. For instance, a clip would be placed over the figure 10 if that is the date on which an invoice should come up for review, in the event that it has not been paid previously. Each day the cards that have clips covering that date are examined to see what action has been previously taken, as indicated by a notation at the bottom of the card. Another letter may then be sent, and the clip is moved forward.

In the operation of this clerical system of collecting accounts receivable, the credit manager may set up certain rules. For instance, it may

DUPLICATE INVOICE
Collection Department Copy

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

The Hill Company
1421 Aimhurst Ave.
Buffalo 14, N.Y.

Invoice No.

Sold to:

_____

_____

_____

Invoice Date_____
Shipping Date_____
Shipped Via_____
F.O.B._____
Terms_____
Order No._____

Shipped to:

_____

_____

_____

Quantity	Description	Unit Price	Amount

Collection Procedure:
1. Copy of Invoice mailed_____
2. Letter No. 1 mailed_____
3. Letter No. 2 mailed_____
4. Final Demand mailed_____
5. Referred to attorney_____

be determined that accounts below a certain dollar amount may be handled by clerical routine up to the point of legal action. If an account is above a certain amount, it may be turned over to the credit manager for special handling if the first reminder has been ignored by the customer. Most of the accounts are usually collected through the routine of letters mailed by the clerks. A small percentage of the accounts will require a telephone call, a telegram, or a personal visit, or perhaps legal action before they are collected. The value of the above system lies in its constant and regular reminder to the customers. This keeps most of the accounts current and cash flowing steadily into the company's bank account.

Valuation of Accounts Receivable

Assume that the balance sheet of a mercantile firm shows the following amounts:

Current Assets:		
Accounts receivable	$75,000	
Less: Allowance for bad debts	5,000	$70,000

In the foregoing section of the balance sheet, $70,000 is indicated as collectible from customers, after a provision has been made for estimated uncollectible accounts of $5,000. The management, the stockholders, the creditors, and the taxing authority of the government can reasonably expect that $70,000 is a sound representation by the accountant of the value of the accounts receivable at the balance sheet date. In addition to his interest in the collection of the accounts receivable, the accountant is mainly interested in presenting the accounts receivable as a fair representation of values receivable. To accomplish this purpose, the accountant should take steps to satisfy himself that: (1) The periodical charge to the income statement for the estimated bad debt loss is reasonable, and (2) The allowance for bad debts in the balance sheet is adequate.

In Chapter 10, two methods of determining the estimated bad debt expense were described. They are summarized below:

1. One method bases the computation of the estimated bad debt loss upon sales (usually net sales, less cash sales). The rate of bad debt loss to sales is derived by computing, for prior years, the ratio of bad debt loss (less recoveries) to sales.

2. Another method is to analyze and age the accounts receivable. The accountant multiplies the amount of each age group by a percentage of bad debt loss that experience has indicated will result in each age group. Sound judgment and an insight into current conditions are

equally influential in estimating the rates of bad debt loss. (A schedule illustrating the aging of accounts receivable is illustrated below.)

THE HILL COMPANY
Aging Schedule of Accounts Receivable
June 30, 1962

Name of Customer	Account Balances June 30, 1962	Current to 30 days	31–60 days	61–90 days	90–180 days	Over 180 days	Comments
The Evan Co. (see page 370)	240.62	6.50	125.37	33.75	75.00		
Forster & Son	1,275.38	850.50	111.63	313.25			
Gage-Craft	680.00	680.00					
Harms Inc.	200.00		200.00				
Totals	75,000.00	50,000.00	15,000.00	5,000.00	5,000.00		

THE HILL COMPANY
Summary—Aging of Accounts Receivable
June 30, 1962

Aging Periods	Total	Percentage	Allowance for Bad Debts
Current to 30 days	$50,000	3.5	$1,750
31 to 60 days	15,000	5.0	750
61 to 90 days	5,000	20.0	1,000
90 to 180 days	5,000	30.0	1,500
Totals	$75,000		$5,000

Particularly in using the second method, circumstances may alter the percentages used. For example, one large account in a group of overdue accounts may be overdue, not because of inability on the part of the buyer to pay but because the invoice may be in dispute. A price adjustment, a disputed return of part of a shipment, a remake of the order are only a few of the many conditions that arise which may cause an invoice to remain unpaid for several months. Therefore, to apply the usual bad debt loss percentages would distort the allowance for bad debts. There is no substitute for sound judgment and the experience of the accountant in his appraisal of the valuation of the accounts receivable as they appear in the financial statements.

Aging Accounts Receivable

An Aging Schedule of Accounts Receivable prepared for the Hill Co. at June 30, 1962, is shown above. This schedule is a detailed list of all the open accounts transcribed from the accounts receivable subsidiary ledger. An illustration of one of these accounts appears on page 370.

To facilitate the itemization of the open charges or credits, the debits and credits in each customer's account are matched against one another, using either letters or numbers as an index, or cross-reference. The indexing is best done by the accountant at the time the credits are posted. At that time all the information is on hand regarding the credits. Customers usually send in a remittance advice with their checks, indicating the invoice that is being paid. If they do not, the open items (debits) must be scanned in an attempt to match the cash received against them. Occasionally, a debit or a combination of debits cannot be found which agrees with the payment received, particularly when the customer is sending a partial payment and fails to identify the charges he is paying. The accountant has the legal right to apply unspecified payments to the oldest invoice first. In any case, the payments should be deposited promptly and a communication addressed to the customer regarding the correct disposition of the payment.

Each account is analyzed in the same manner as The Evan Company account on page 370, and the details set forth in the "Aging Schedule of Accounts Receivable."

After the accounts receivable have been listed on the schedule, and their balances analyzed by age group, the columns are totaled and cross-totaled. The totals are then summarized in the "Summary Aging of Accounts Receivable," as illustrated in the middle of page 374. Each age group may be either multiplied by an estimated rate of bad debt loss that is believed to be applicable; or a specific amount of bad debt loss may be determined by the accountant for each group. The Bad Debts expense account is debited and the Allowance for Bad Debts account is credited for an amount which will adjust the allowance account to the total estimated bad debt loss as finally set forth in the "Summary," i.e., $5,000 in the illustration on page 374.

Allowance for Uncollectible Notes

If sales are made to customers by means of promissory notes, drafts, or trade acceptances, as well as on open-book account, an allowance should be made for uncollectible notes and drafts. If a separate allowance is not provided for, the allowance for bad debts should be sufficient to cover both the accounts and notes receivable. The usual balance sheet presentation is illustrated below:

Current Assets:		
Accounts receivable—Trade	$ 75,000	
Notes receivable—Trade	25,000	
Total	$100,000	
Less: Allowance for bad debts	7,000	$93,000

Past-due notes or drafts should not be carried as notes receivable on the balance sheet. This is because they are considered as dishonored if not paid at maturity. The procedure is to charge the unpaid matured note to Accounts Receivable where it will be recorded as a past-due account for future reference for credit purposes. If the amount proves to be uncollectible, it is written off to the Allowance for Bad Debts.

INVENTORY

Nature of the Inventory Problem

In a trading company, if all products are sold before the end of the accounting period, there is obviously no month-end inventory. Similarly, if a manufacturing company buys raw material and converts all of it into a finished product that is sold by the end of the accounting period, there is no inventory, either of raw material, work in process, or finished goods. (A detailed description of manufacturing accounting is presented in Chapter 25.)

To illustrate the above observations, assume the situation of a merchant tailor who is a manufacturer of custom-made clothes. He designs, cuts, and sews garments to order for his customers. If the materials are supplied by his customers and if the garments are completed and delivered before the end of his accounting period, the tailor has no month-end inventory and no inventory problems. However, if the tailor *buys* bolts of cloth from which his customers make a selection, several basic problems involving inventory accounting arise that are typical of every enterprise that has a month-end inventory. These problems are outlined first, briefly, and then described in detail in the following paragraphs.

The Recording Problem As explained in Chapter 3, there are two basic methods of recording an inventory: (a) the physical inventory method, and (b) the perpetual inventory method. Under method (a), the inventory is recorded only after it is physically counted and priced. Under method (b), the inventory appears as the balance in the Inventory ledger account, after the purchases and cost of sales have been recorded. A physical inventory under method (b) serves, therefore, mainly as a means of verifying the ending inventory balance in the ledger. Under the physical inventory method, however, an actual count made periodically is necessary in order to determine the ending inventory. For this reason the physical inventory method is often referred to as the *periodical method.*

The Cost or Pricing Problem Whether the perpetual inventory method or the physical (periodical) inventory method is followed, there is the

problem of assigning an appropriate price or cost to the merchandise that was sold and to the ending physical inventory. But what price is to be used? Ed Eck, the piano dealer in Chapter 3, can easily determine the cost of each piano sold. He has only five pianos, and they cost $400 each. When a piano is sold, the cost is $400. If an inventory is taken, the cost of each piano on hand is $400. But suppose a piano dealer operates a music store and sells, for example, reels of stereophonic tape for electronic recording instruments. Several cases of tape are purchased at various times and at prices ranging from $.73 to $.95 per reel. The identity of the cost of the different reels of tape may be lost when they are taken from their packing cases and placed on the store shelves. If this is so, when a sale is made, what is the cost of the sale? When an inventory is taken, what is the cost of the reels of tape on hand? It is difficult, if not impossible, to specifically identify each reel as having been part of a particular purchase.

The Inventory Valuation Problem When radios became popular, music store dealers who had phonographs on hand found that they could not be sold even at their cost. A millinery buyer in a department store cannot sell last season's hats at the price at which they were originally marked to sell. Under conditions illustrated by these common examples, even though the quantity and the cost of a product in the inventory may be known, the realizable cash value may be much less. But how much less? In other words, *what is the value* if the cost is no longer equivalent to the present value? An opposite situation is illustrated by a wine merchant who has bought several cases of a good vintage wine and finds after a year that the inventory of this vintage has increased in value.

The Inventory Counting Problem A drug store, for example, may be open seven days a week, and it is difficult to count the merchandise on the shelves during business hours. The variety of the items further complicates the problem. In addition, some items in stock, such as bulk pharmaceuticals, can be evaluated properly only by a trained chemist. A store of this type will often hire the services of experts familiar with the line of merchandise who will assist in the inventory-taking after business hours. In other types of enterprises, manufacturing for example, it may be more convenient to shut down the plant and cease all productive operations while the inventory is being taken.

The Problem of Recording the Inventory

The problem of recording the physical or periodical inventory is explained in detail on pages 38, 39, and 41 in Chapter 3. There is nothing further to be added to this phase of the problem. The perpetual in-

ventory method, on the other hand, requires further development to complete it as a description of an accounting procedure.

Assume that a wholesale dealer in textiles carries a variety of fabrics in stock consisting of imported and domestic woolens, fabrics of wool and synthetic blends, and various weaves, such as worsteds, flannels, and others. A perpetual or continuous inventory record card is prepared for each fabric in stock. These cards comprise a subsidiary ledger controlled by the Inventory account in the general ledger. Two illustrations of these cards appear below and on page 379.

On September 1, the textile dealer makes two purchases, totaling $1,950. (For simplicity of illustration, only these transactions will comprise the entries during September.) These purchases are recorded in a voucher register in the following manner. (Only the pertinent details of the voucher register are illustrated. For a more complete presentation of a voucher register, see Chapter 14.)

VOUCHER REGISTER—MONTH OF SEPTEMBER—PAGE 25

Date	Voucher No.	Creditor	✓	Accounts Payable Cr.	Inventory	
					Sub-Ledger	Amount Dr.
19—						
Sept. 1	875	Textile Ltd.	✓	1,200	✓	1,200
1	876	E & E Textile Co.	✓	750	✓	750
				1,950		1,950
				(30)		(15)

Each day, in addition to the entries in the voucher register, the inventory purchases are recorded in the "In" column of the appropriate perpetual inventory card, i.e., Stock Items 1 and 2 below and on page 379.

ILLUSTRATIONS OF PERPETUAL INVENTORY CARDS

DESCRIPTION: IMPORTED BLUE FLANNEL **STOCK NO. 1**
MANUFACTURER: TEXTILE LTD.

Unit of Measure—yards

Date	Ref.	In			Out			Balance		
		Qty.	Price	Amt.	Qty.	Price	Amt.	Qty.	Price	Amt.
19—										
9/1	V875	60	20	1,200				60	20	1,200
9/5	S1012				20	20	400	40	20	800

DESCRIPTION: BROWN DACRON AND WOOL WORSTED
MANUFACTURER: E&E TEXTILE CO. STOCK NO. 2

Unit of Measure—yards

Date	Ref.	In			Out			Balance		
		Qty.	Price	Amount	Qty.	Price	Amt.	Qty.	Price	Amt.
19—										
9/1	V876	50	15	750				50	15	750
9/10	S1013				30	15	450	20	15	300

When a sale is made, an entry is recorded in the "Out" Column of the inventory card, and the new balance brought forward as illustrated by the entries of September 5 and September 10. The sale and corresponding cost of the sale is entered in a sales journal as illustrated below. (For simplicity of illustration only these transactions comprise the entries during September.)

SALES JOURNAL—MONTH OF SEPTEMBER—PAGE 9

Date	Invoice No.	Customer	Cost of Sales—Dr. Inventory—Cr.		Accounts Receivable—Dr. Sales—Cr.	
19—						
Sept. 5	1012	Frank Smith	✓	400	✓	560
10	1013	Edward Jones	✓	450	✓	585
				850		1,145
				(50) (15)		(10) (40)

At the end of the month, after the foregoing voucher register and sales journal have been posted, the general ledger accounts appear as follows:

Accounts Receivable — Account No. 10

19—							
9/30		S9	1,145				

Inventory — Account No. 15

19—				19—			
9/30	Bal. 1,100	V25	1,950	9/30		S9	850

Accounts Payable — Account No. 30

				19— 9/30		V25	1,950

Sales — Account No. 40

				19— 9/30		S9	1,145

Cost of Sales — Account No. 50

19— 9/30		S9	850				

The balance of the Inventory account at September 30 is $1,100. This agrees with the total of the subsidiary perpetual inventory ledger (illustrated on pages 378–9), as summarized below:

40 yards Stock No. 1 @ $20	$ 800
20 yards Stock No. 2 @ $15	300
	$1,100

The Cost or Pricing Problem

Assume that the wholesale textile dealer, referred to above, purchases in October enough cloth of the same weave and quality to replace the cloth sold in September. The manufacturers have since raised prices because of a general increase in the price of wool. The perpetual inventory card for Stock No. 1 appears on page 381, where the September and October transactions have been recorded. Two lots of each fabric have been brought forward into the balance column, each purchased at a different price. When a sale is made, what price is used to determine the cost of the goods sold? There are three methods commonly used. While there are other methods, they are variations of the three basic methods that are described in detail in the following transactions:

1. First-in, First-out (Fifo)
2. Last-in, First-out (Lifo)
3. Moving Average

First-in, First-out Pricing (Fifo) Under this method, if a sale is made, say, on October 20, the first lot purchased is treated as the first lot sold. After the first lot is exhausted or depleted, the next succeeding lot is

DESCRIPTION: IMPORTED BLUE FLANNEL **STOCK NO. 1**
MANUFACTURER: TEXTILE LTD.

Unit of Measure—yards

Date	Ref.	In			Out			Balance		
		Qty.	Price	Amt.	Qty.	Price	Amt.	Qty.	Price	Amt.
19—										
9/1	V875	60	20	1,200				60	20	1,200
9/5	S1012				20	20	400	40	20	800
10/15	V940	20	23	460				*{ 40	20	800
								{ 20	23	460

* Although the balance is $1,260 ($800 and $460), the costs of the separate lots carried in the balance at different prices are shown separately. In practice, only the $1,260 may appear.

drawn upon, and so on. The perpetual inventory card for Stock No. 1, illustrating Fifo pricing, appears as follows:

DESCRIPTION: IMPORTED BLUE FLANNEL **STOCK NO. 1**
MANUFACTURER: TEXTILE LTD.

Unit of Measure—yards

Date	Ref.	In			Out			Balance		
		Qty.	Price	Amt.	Qty.	Price	Amt.	Qty.	Price	Amt.
19—										
9/1	V875	60	20	1,200				60	20	1,200
9/5	S1012				20	20	400	40	20	800
10/15	V940	20	23	460				40	20	800
								20	23	460 } 1,260
10/20	S1215				20	20	400	20	20	400
								20	23	460 } 860

In this illustration, the 20 yards sold on October 20 are recorded as having been sold from the lot of 40 yards, purchased on September 1 for $20 a yard. This entry may or may not be in accord with the actual facts, since the actual fabric sold may have been cut from the cloth purchased on September 1 or October 15.

Last-in, First-out Pricing (Lifo) Under this method, the last lot purchased is treated as the first lot sold. If the last lot purchased is depleted,

then the next *preceding* lot is drawn upon, and so on. The perpetual inventory card for Stock No. 1, illustrating Lifo pricing, appears below:

DESCRIPTION: IMPORTED BLUE FLANNEL **STOCK NO. 1**
MANUFACTURER: TEXTILE LTD.

Unit of Measure—yards

Date	Ref.	In			Out			Balance		
		Qty.	Price	Amt.	Qty.	Price	Amt.	Qty.	Price	Amt.
19—										
9/1	V875	60	20	1,200				60	20	1,200
9/5	S1012				20	20	400	40	20	800
10/15	V940	20	23	460				40 20	20 23	800 460 } 1,260
10/20	S1215				20	23	460	40	20	800

In this illustration, the 20 yards of cloth sold on October 20 are recorded as having been sold from the purchase of October 15. *If a concern were to replace each quantity of merchandise sold with the same quantity, as in the foregoing example, the inventory on hand would always be carried at the price in effect at the time the Lifo method is adopted.*

Moving-Average Pricing In the operation of this method, the cost of a new lot of product purchased is added to the balance of the inventory on hand, and the total cost is divided by the total quantity on hand. The resulting average unit cost is used to determine the subsequent cost of sales until another lot is purchased, at which time a new average unit cost is computed. Applying this method to the figures from the preceding illustration of Stock No. 1, the perpetual inventory card is recorded as follows:

DESCRIPTION: IMPORTED BLUE FLANNEL **STOCK NO. 1**
MANUFACTURER: TEXTILE LTD.

Unit of Measure—yards

Date	Ref.	In			Out			Balance		
		Qty.	Price	Amt.	Qty.	Price	Amt.	Qty.	Price	Amt.
19—										
9/1	V875	60	20	1,200				60	20	1,200
9/5	S1012				20	20	400	40	20	800
10/15	V940	20	23	460				60	*21	1,260
10/20	S1215				20	21	420	40	21	840

(* 1,260 ÷ 60 = 21)

Comparison of Fifo, Lifo, and Moving-Average Methods as Applied to the Perpetual Inventory Method

In the illustration below, the results of using the three methods are compared for the the two months, September and October. Certain trends are apparent. When Fifo is used during a period of rising prices, the cost of sales will not reflect the rising costs until the inventory on hand at the beginning of the cycle is depleted. The inventory balance under Fifo rises with rising prices and continues to do so until the cycle of prices is reversed.

The use of the Lifo method tends to produce distinctly opposite results from Fifo during the changes in the price cycle. When prices are rising, the cost of sales is higher. Lifo inventory during changing prices tends to remain the same as it was at the start of the cycle, *if the quantity sold is replaced promptly.* During a period of declining prices, the trend is reversed, as the Lifo cost of sales is recorded at lower costs.

The average cost method usually produces results that fall between the results produced by Fifo and Lifo methods.

Stated briefly, during a period of rising prices, the cost of sales under Fifo are lower than Lifo cost of sales, and profits and income taxes are therefore higher. Under Lifo, costs of sales are higher than Fifo costs of sales, and profits and income taxes are therefore lower. During a period of declining prices, the reverse is the tendency. This conclusion expresses a general trend. In specific cases, the results, though, may be quite different. This may occur, for example, if a shortage were to cause holders of an inventory to deplete their inventory in full before making replacements. Referring to the perpetual inventory card, illustrated above using the Lifo pricing method, assume that 60 yards of Stock No. 1 are sold on October 20, thereby depleting the inventory. A subsequent acquisition of inventory would be recorded at current prices producing results similar to those produced under Fifo.

COMPARISON OF FIFO, LIFO, AND MOVING-AVERAGE METHODS
PERPETUAL INVENTORY METHOD
Stock No. 1

	Fifo	Lifo	Moving Average
September:			
Cost of sales	$400	$400	$400
Inventory	$800	$800	$800
October:			
Cost of sales	$400	$460	$420
Inventory	$860	$800	$840

Comparison of Fifo, Lifo, and Weighted Average Methods as Applied to the Physical Inventory Method

The Fifo, Lifo, and Weighted Average [1] methods of pricing inventory are also applicable to a physical inventory. In the illustration of *Fifo pricing of a physical inventory* that follows, information from the preceding illustrations of various pricing methods applied to a perpetual inventory has been used:

Transactions—September and October, Stock No. 1:			
September 1, purchase	60 units @ $20, or	$1,200	
September 5, sales	20 units		
October 15, purchases	20 units @ $23, or	460	
October 20, sales	20 units		
Inventory, October 31	40 units	?	? (see following)

Pricing of the Ending Inventory (Fifo):	
20 units, October 15, purchase @ $23, or	$ 460
20 units, September 1, purchase @ $20, or	400
40 units, October 31 inventory	$ 860

The ending physical inventory, illustrated in the foregoing example, is priced first at the most recent price, to the extent of the most recent quantity purchased, and at the next preceding price until the entire inventory is accounted for. The Fifo method produces the same results for inventory values and cost of sales when applied to the physical inventory as it does when applied to the perpetual inventory method (see page 381).

Unlike the Fifo method, the Lifo method when applied to a physical inventory may produce different results (see below) than it does when applied to the perpetual inventory method. The same results are produced as long as the quantity sold is replaced by the same quantity. For example, on page 382, the Lifo perpetual inventory was $800 and the cost of sales, $860, for the two months of September and October. The Lifo method of pricing applied to a physical inventory would be:

40 units @ $20, or $800

The cost of sales would be:

20 units sold @ $20, or	$400 (September)
20 units sold @ $23, or	460 (October)
	$860

[1] The moving average heretofore illustrated is sometimes referred to as the moving weighted average.

The Lifo physical inventory is priced first at the unit cost of the beginning inventory to the extent that the quantity is equal to the beginning inventory: the excess being priced at the next succeeding purchase price, and so on.[2]

Different results can be produced with the Lifo method when applied to a physical inventory if the quantity of purchases and sales varies from month to month. This is illustrated in the following example. The details for September and October are the same as in the previous illustrations. Transactions for November have been added to produce different results:

Date	Ref.	In			Out			Balance		
		Qty.	Price	Amt.	Qty.	Price	Amt.	Qty.	Price	Amt.
19—										
9/1	V875	60	20	1,200				60	20	1,200
9/5	S1012				20	20	400	40	20	800
10/15	V940	20	23	460				40	20	800
								20	23	460
10/20	S1215				20	23	460	40	20	800
11/15	V1234	30	24	720				40	20	800
								30	24	720
11/25					20	24	480	40	20	800
								10	24	240
Totals				($2,380)			($1,340)			($1,040)

The same transactions for the three months, using the Lifo method of pricing, produce the following results when the ending inventory is determined by *physical count:*

Pricing of Ending Inventory (Lifo):	
50 units, September 1 purchase @ $20	$1,000
Cost of Sales for the Three Months:	
Purchases, 110 units	$2,380
Deduct: Ending inventory 50 units	1,000
Cost of sales, three months	$1,380

Unlike the Fifo method of pricing, therefore, the Lifo method produces different results when applied to the physical inventory than when applied to the perpetual inventory, if the volume of sales and purchases varies from period to period.

[2] This procedure may differ for purposes of determining net taxable income according to the Internal Revenue Service. (See Sec. 1.472, Income Tax Regulations.)

When the ending inventory of 50 units is priced on a *weighted average* basis, the results are as follows:

Pricing of Ending Inventory (weighted average): Total purchases $2,380 (see illustration above) divided by total quantity purchases, 110 units equals $21.63⅔ average unit cost.	
50 units (ending inventory) × $21.63⅔ (rounded off to the nearest dollar).	$1,082
Cost of Sales for the Three Months:	
Purchases, 110 units	$2,380
Deduct: Ending inventory, 50 units	1,082
Cost of sales, three months	$1,298

Inventory Revaluation

After the quantity of the inventory has been determined either by physical count or by reference to a perpetual inventory subsidiary record, and priced in accordance with a pricing policy established by the management (i.e., Fifo, Lifo, or another method), the inventory *cost* so derived may be *revalued.* The purpose is to reflect: (a) losses in value due to physical deterioration, damage in handling, changes in style, or other factors which indicate that the inventory cannot be sold at a price that will yield the expected gross profit, or (b) changes in the current replacement cost (i.e., market price). When a physical inventory is taken, obsolete, unsaleable merchandise may be counted but not extended into the inventory valuation, or extended at a nominal valuation.

Losses in Value due to Obsolescence or Physical Change If all or any portion of an inventory has suffered a loss because it no longer has the utility it had when purchased, the cost of the inventory should be reduced by the extent of the loss in utility or marketability. The loss is charged to the cost of sales of the current accounting period. The procedure by which this is accomplished depends upon whether the physical inventory method or the perpetual inventory method is in use.

If the physical inventory procedure is in effect, the loss is accounted for by deducting it from the inventory before the inventory is recorded on the books. For example, an inventory is taken, and the cost is determined to be $10,000. Included in this amount are items of merchandise that are shop-worn and outmoded by style changes. The loss in value is judged to be $1,500. The inventory is reduced to a value of $8,500 and recorded on the books by the following entry:

Inventory	8,500	
Income summary		8,500
To record the ending inventory		

By recording the inventory as $8,500, the cost of sales is thereby increased by $1,500.

If the perpetual inventory procedure is adopted, the loss is first recorded on the perpetual inventory cards, and the card balances are corrected to show the residual useful value. The total amount of the loss is then recorded by an adjusting entry as follows:

Cost of sales	1,500	
Inventory		1,500
To record the loss of inventory value		

The effect under both inventory systems is the same. The cost of sales is increased and the ending inventory decreased by the amount of the loss.

Losses in Value due to Pricing Change In addition to providing for losses in the marketability of inventory due to obsolescence and physical change, accountants may also provide for losses due to a decline in prices. If an item in the inventory can be replaced at a lower cost than its acquisition cost, and if the selling price at which it will be sold is or will be reduced accordingly, many accountants recommend that the inventory item be reduced to the *lower of its cost or market value.* Members of the Internal Revenue Service and many other accountants take exception to this recommendation with regard to Lifo inventory. The Internal Revenue Service does not permit a reduction of Lifo inventory below cost, for declines in market values.

The accounting procedure is the same as that illustrated above in accounting for losses in the utility of the inventory. The effect, as in the case of other types of inventory losses, is to account for the loss during the current accounting period. If no provision is made for these losses during the current accounting period, the loss will be reflected during the period in which the inventory is sold. Some accountants recommend that an inventory be carried at cost even though the market value is lower, in order to cause the loss due to price declines to fall into the period of the sale. Those accountants who favor reducing the value of the inventory to cost or market, whichever is lower, require that the cost or market of *each* item in the inventory be listed and compared. A permissible alternative to the listing and comparing of each item is the grouping of like items into reasonably broad categories and the comparison of the total cost with the total market of each of the categories. The aggregate inventory is therefore composed of the lower of the cost or market of each item or each category in the inventory. The following figures illustrate the lower of cost or market rule:

Item	Unit Cost	Physical Count	Total Cost	Current Replacement Cost	Lower of Cost or Market by Item
A	$1.00	100	$100.00	$1.00	$100.00
B	2.00	200	400.00	1.50	300.00
C	3.00	300	900.00	3.10	900.00
D	4.00	400	1,600.00	2.50	1,000.00
			$3,000.00		$2,300.00

The inventory would be stated on the balance sheet at $3,000 if the cost basis is consistently followed; and at $2,300 if the rule of cost or market is consistently followed.

The Gross Profit Method

In some instances, the amount of an inventory may be estimated. For example, it may be necessary to estimate an inventory that has been destroyed by fire, and there are no perpetual inventory records to which an insurance adjuster may refer. Or, an auditor may want to test the over-all accuracy of a physical inventory taken by his client's employees. Also, when management wants monthly statements, and it is impractical to take an inventory every month, the inventory may be estimated. The "Gross Profit Method" is valid if the sales during the period in which the inventory is estimated are made at the average rate of gross profit that prevailed in prior accounting periods. If a variety of products are sold at varying rates of gross profit, it may be impossible to apply this method, unless the quantities sold in the current period and in prior periods consistently produce the same average rate of gross profit.

The gross profit method is illustrated in the following example. In this example, the average rate of gross profit experienced in the past is 30%. This rate is assumed to apply to the period in which the inventory is estimated:

GROSS PROFIT METHOD OF ESTIMATING AN INVENTORY

Beginning inventory		$15,000
Purchases		75,000
Total merchandise available for sale		$90,000
Less: Cost of sales estimated as follows:		
Net sales	$100,000	
Reduced by the average rate of gross profit of 30%	30,000	70,000
Estimated ending inventory		$20,000

The Retail Method of Inventory

Because of the quantity and variety of merchandise that must be carried in department and variety stores to satisfy the demands of customers, and the necessity for frequent reports on the extent of the inventory in all departments, the "retail" method of determining inventory has come into use.

In the operation of this system, the buyer of a department in a retail store establishes the selling price that will yield a profit to his department and to the store at the time he places an order for merchandise. When the merchandise is received, it is usually tagged or marked with the style, lot number, and the selling price before it is placed in stock or on the shelves for sale. By keeping a daily record of the total retail or total sales value of both the purchases and the sales, the retail value of the inventory can be ascertained by subtracting the total sales in a department from the retail value of the merchandise bought by the department. The remainder is the retail value of the inventory. This figure is then reduced by the ratio of the cost of the merchandise available for sale to the retail value of merchandise available for sale. Computing the inventory in this manner provides department store buyers with financial reports more frequently than would be the case if they were required to wait for a physical inventory to be taken. The buyers are thus able to adjust their buying and selling policies more quickly to meet changes in market conditions.

In order to understand the foregoing procedures and the illustrations that appear below, the following terminology is defined. These terms are used commonly in the merchandising business.

Mark-ups are additions to the original selling price. The figure is usually expressed as a percentage of the selling price.

Mark-downs are reductions in the selling price which lower the price below the original selling price. This figure is also expressed as a percentage.

In the three illustrations that follow, a distinction is made in the computation of the "cost to retail ratio" used to factor the inventory stated at retail value. In the first illustration, there are no mark-ups or mark-downs. In the second illustration, the cost ratio and the resulting inventory are determined when mark-ups are used in computing the cost ratio, and when mark-ups are excluded. In the third illustration, the cost ratio and the resulting inventory are determined when mark-downs are used in computing the cost ratio, and when mark-downs are excluded. The conclusion to be drawn from the three illustrations is that mark-ups should be included in the computation of the ratio of cost to retail before

the inventory is valued, so that the inventory will not reflect a value higher than cost during a rising market. On the other hand, when the market is declining, the exclusion of mark-downs produces an inventory that reflects the declining market by a valuation at a figure lower than the cost.

In the examples that follow, units are included to permit ease in following the method. However, the tabulation of units of product is not essential to the method and is not a part of the final inventory determination, either in the examples or in practice.

Illustration 1: (No mark-ups or mark-downs.)

	Units	Cost	Retail
Beginning inventory	1	$10	$15
Purchases (cost $10 each)	2	20	30
Totals	3	$30	$45
Sales	1		15
Ending inventory	2		$30

Computation of Ending Inventory Value:

Retail (as above)	$30
Ratio of cost to retail ($30 to $45)	2/3
Inventory value (2/3 × $30)	$20

Illustration 2: (Mark-ups included in the ratio of cost to selling price.)

	Units	Cost	Retail
Beginning inventory	1	$10	$15
Purchases (cost $10 each)	2	20	30
Totals	3	$30	$45
Mark-ups ($3 each)			9
Totals	3	$30	$54
Sales	1		18
Ending inventory	2		$36

Computation of Ending Inventory Value:

	Correct	Incorrect
Retail (as above)	$36	$36
Ratio of cost to retail:		
Including mark-ups ($30 to $54)	5/9	
Excluding mark-ups ($30 to $45)		2/3
Inventory value	$20	$24

By including the mark-ups in the base upon which the "cost to retail" ratio is figured, a smaller ratio results, thereby bringing about a lower inventory value than would be the case if the higher ratio (⅔) were applied to the inventory at retail.

Illustration 3: (Mark-downs included in the ratio of cost to selling price.)

	Units	Cost	Retail
Beginning inventory	1	$10	$15
Purchases (cost $10 each)	2	20	30
Totals	3	$30	$45
Mark-downs ($3 each)			9
Totals	3	$30	$36
Sales	1		12
Ending inventory	2		$24

Computation of Ending Inventory Value:

	Correct	Incorrect
Retail	$24	$24
Ratio of cost to retail:		
Excluding mark-downs ($30 to $45)	2/3	
Including mark-downs ($30 to $36)		5/6
Inventory value	$16	$20

In this last illustration, the original retail price has been reduced, indicating a reduction in the market. The exclusion of mark-downs from the "cost to retail" ratio gives an ending inventory value that is 20% below cost. This parallels the 20% reduction in the original retail price.

QUESTIONS

RECEIVABLES

1. (a) Define receivables.
   (b) Under what condition are receivables classified as current assets?
   (c) Occasionally a wholesale company may advance funds to a customer to assist him in financing his business. Are these advances classified as accounts receivable? Explain.
2. What security does a seller have against the buyer on an open-book account sale?
3. When an order is received, what points does the seller investigate before accepting the order on an open-book account basis?
4. What information is revealed in the credit rating of a customer?
5. Briefly describe the "duplicate invoice" system used in following up accounts receivable collections.

6. Describe the manner by which the Evan Company account balance of $240.62 is aged.
7. Describe the two methods of estimating bad debt losses. Do these two methods achieve the objectives stated on page 373?

INVENTORY

8. Describe briefly the nature of the four inventory problems developed in this chapter.
9. What are the two methods of recording inventories?
10. In the operation of a perpetual inventory system, a control account and a subsidiary ledger are used. Explain the principal feature of each.
11. Why is a perpetual inventory referred to as a continuous inventory system?
12. Is it necessary to take a physical inventory when a perpetual inventory system is in operation?
13. What is another term used to describe the physical inventory method?
14. How does the Fifo pricing system differ from Lifo?
15. Why has it become necessary to develop systems of pricing inventory?
16. Which of the inventory pricing methods closely approximates the physical flow of merchandise in a grocery store? Why?
17. During a period of rising prices, which inventory pricing method tends to produce a higher cost of goods sold? Why? How long will this effect continue?
18. During a period of rising prices, which inventory pricing method will result in lower total current assets?
19. Are the results of the various inventory pricing methods the same when applied to the perpetual and physical inventory systems?
20. What is meant by "Inventory Revaluation"?
21. Do both systems of inventory require an adjusting entry to reduce the inventory by an amount of unsaleable goods? By the amount of a price change?
22. (a) What purposes does the gross profit method of estimating inventories serve?
    (b) Under what conditions does the gross profit method operate best?
23. Explain the operations of the retail inventory system.

PROBLEMS

Problem 17-1

Frank Inc. began business on January 1, 1961. On December 31, 1961, the ledger included the following accounts:

Accounts receivable	$ 75,225
Sales	350,800
Returned sales and allowances	15,800

Bad debts expense for 1961 was estimated at 4% of net sales. In 1962, collections on 1961 accounts receivable amounted to $73,400; and $10,500 of 1961 accounts receivable were uncollectible.

Sales in 1962 amounted to $380,400, and returned sales and allowances, $10,200. Collections on 1962 sales amounted to $290,100; and $1,400 of 1962 accounts receivable were uncollectible.

Bad debts expense for 1962 was estimated at 3% of net sales.

Required:

(A) Make all entries, in 1961 and 1962, affecting the Bad Debts expense account, and the Allowances for Doubtful Accounts.

(B) The net Accounts Receivable on the balance sheets of December 31, 1961, and December 31, 1962.

Problem 17-2

Among the assets of Ajax Company were the following receivables from Balsam Corporation:

(a) A non-interest-bearing note for $500 due November 1, 1961.

(b) An account receivable with a balance of $125.

The note was dishonored on November 1 and the company wrote off both receivables as uncollectible on that date. On July 10, 1962, $225 was received from the receiver for Balsam Corporation. No further collections are expected.

Required:

Entries in general journal form to record the write-off and subsequent collection from Balsam Corporation. The Allowance for Doubtful Accounts at December 31, 1961, was $5,000.

Problem 17-3

At December 31, 1962, prior to adjustment and closing of the books, the Accounts Receivable—Control account showed a balance of $150,000. The Allowance for Doubtful Accounts showed a debit balance of $1,500. The accounts receivable in the subsidiary ledger were aged, and it was determined that an allowance for doubtful accounts of 2% of the total accounts outstanding at December 31 would be required.

Required:

(A) Prepare the necessary adjusting entry at December 31.

(B) Prepare the appropriate sections of the balance sheet at December 31.

Problem 17-4

The following customer's account appears in the subsidiary ledger of the Haltsner Co. at July 31, 1962:

CUSTOMER'S LEDGER

Name—Francis Bacon

Date	Explanation	Folio	Debit	Credit	Balance
1962					
2/10	Invoice 1345	S25	1,026.50		1,026.50
2/25	Receipt 425	CR18		1,000.00	26.50
4/15	Invoice 2034	S40	475.50		502.00
4/25	Receipt 550	CR22		475.50	26.50
5/18	Invoice 2221	S45	618.00		644.50
6/25	Invoice 2750	S48	465.50		1,110.00
6/30	Invoice 2926	S50	240.00		1,350.00
7/10	Receipt 592	CR30		240.00	1,110.00

Other account balances at July 31, 1962, are listed as follows, with an estimate of the percentage of uncollectible amounts (sales terms are net 30 days):

	Amount	Estimated Uncollectible
Current	$24,270	2%
30–60	14,240	5
60–90	10,100	6
90–180	4,210	8
Over 180	3,751	10

Required:

(A) Prepare a transcript of the above customer's account and index the debits and credits in order to analyze the account balance.
(B) Prepare an aging schedule of accounts receivable at July 31.
(C) Determine the estimated uncollectibles at July 31, 1962.

Problem 17-5

The Wald Company received and issued the following amounts of merchandise. The merchandise consists of a single product.

Beginning inventory, 10,000 units, cost $2 per unit.

	Purchases	Issues
1st quarter	20,000 units @ $2.00	15,000 units
2nd quarter	25,000 units @ 2.20	25,000 units
3rd quarter	30,000 units @ 2.30	30,000 units
4th quarter	15,000 units @ 2.15	5,000 units

It is assumed that all purchases were made on the first day of each quarter.

Required:

Design suitable perpetual inventory records cards and record the foregoing transactions in accordance with: (a) first-in, first-out pricing, and (b) last-in, first-out pricing.

Problem 17-6

A company dealing in a single product prepares quarterly statements for its stockholders, at which time a physical inventory is taken. The following are the purchases, sales, and beginning inventory figures for the three months:

	Qty.	Unit Cost	Amount
Beginning inventory	800	$2.00	$1,600
1st month:			
Purchases	700	2.16	1,512
Sales	850		
2nd month:			
Purchases	900	2.20	1,980
Sales	1,000		
3rd month:			
Purchases	1,000	2.32	2,320
Sales	1,100		

Required:

Determine the inventory and cost of goods sold at the end of the quarter according to each of the following pricing procedures: (a) Fifo; (b) Lifo; (c) Weighted average.

Problem 17-7

The following figures were taken from the records of the sporting goods department of the Hartford Department Store for the month of November:

Beginning inventories		Sales	
Cost	$12,000	Gross sales	$35,000
Retail	26,000	Returns	2,000
Purchases		Price changes	
Cost	15,665	Mark-ups	2,000
Retail	30,000	Mark-downs	4,000
Freight-in	3,000		
Returns (cost)	1,000		
Returns (retail)	2,000		

During the month, $500 retail price of merchandise with a cost of $250 was transferred to the toy department.

Required:

From the foregoing figures determine the inventory on November 30 by the retail inventory method, including mark-ups in the cost ratio and excluding mark-downs.

Problem 17-8

The merchandise inventory of the Francone Co. was destroyed by fire on September 15, 1962. The Francone Co. uses the periodical inventory method; the last inventory having been taken on June 30, 1962, the close of the company's fiscal year. The following account balances were taken from the ledger on the date of the fire:

Purchases	$230,000
Sales	300,000
Inventory June 30, 1962	28,000
Sales returns	4,000
Transportation-in	5,000
Purchase returns	3,000

In the past five years, the Francone Co. earned an average gross profit of 30% of net sales.

Required:

(A) Determine the inventory on hand at the date of the fire.

(B) Assuming the company has complete fire insurance coverage on the inventory, prepare a journal entry to record the claim against the insurance company.

SUPPLEMENTARY PROBLEMS

Problem 17-9

Given the following inventory data for stock item B452 for a six-months' period:

	PURCHASES			SALES	
	Quantity		Price		Quantity
May	100	@	$1.00	May	100
June	150	@	1.10	June	90
July	75	@	1.12	July	100
Aug.	100	@	1.05	Aug.	120
Sept.	130	@	1.12	Sept.	90
Oct.	50	@	1.15	Oct.	50

Required:

Determine the inventory as at October 31 in accordance with the following procedures:

(a) First-in, first-out (physical inventory).
(b) Last-in, first-out (physical inventory).
(c) Last-in, first-out (perpetual inventory).

It is assumed that the quantity of the physical inventory is the quantity on hand indicated by the above figures. There is no beginning inventory.

(Form 10)

Problem 17-10

During October, the following purchases of a single item of inventory were made by the Totem Co.:

80 units	@ $.80
75 units	@ .75
100 units	@ .70
200 units	@ .65
455 units	

During November, 400 units were sold at $1 each.

Required:

(A) The gross profit on sales for the month of November assuming:
  (1) Fifo inventory procedure.
  (2) Lifo inventory procedure.
  (3) Weighted average inventory procedure.

(B) If the inventory item on hand at November 30 has a current market value of $.30 each, prepare the adjusting entry to record the inventory on the basis of the lower of cost or market, assuming the use of a Fifo inventory procedure. What is the gross profit?

(Form 3)

Problem 17-11

The manufacturer of equipment used in the plating industry makes a unit that costs $200. The unit is sold at a mark-up of 50%. During the month, 20 units are made and sold. Of the 20 units sold, 10 units are sold to a distributor, less 20%; the other 10 are sold to plating shops, less 10%. Assume that the company uses a perpetual inventory system.

Required:

(A) Journalize the sales and cost of sales for the month.
(B) Determine the amount and rate of gross profit for the month.

(Form 3)

Problem 17-12

The Notions Department Store uses the retail inventory system. During the month of July the following transactions took place:

	Cost	Retail
Beginning inventory	$20,000	$30,000
Purchases	45,000	69,750
Freight-in	5,425	
Returned purchases	2,000	3,000
Mark-ups		1,000
Mark-downs		6,000
Sales		70,000

Required:

(A) Calculate the inventory at the end of the month including mark-ups only in the cost ratio.
(B) Calculate the inventory at the end of the month including mark-downs in the cost ratio.
(C) Which cost ratio is recommended? Why?

(Form 3)

Problem 17-13

The Accounts Receivable—Control account as of December 31 shows a balance of $1,500,000. The experience of the company is that 5% of the accounts will prove to be uncollectible. The Allowance for Bad Debts shows a present balance of $35,000. Make journal entries to:

(A) Provide the year-end adjustment for bad debts.
(B) During the following year, accounts receivable amounting to $65,000 were proved to be uncollectible, of which $5,000 was collected in legal settlements.

(Form 3)

18

Tangible Fixed Assets

Nature of Tangible Fixed Assets

A tangible fixed asset is an asset that is relatively permanent in nature, is used in the operations of a business, and is not offered for sale during the regular operations of the business. A diagram is displayed on the following page.

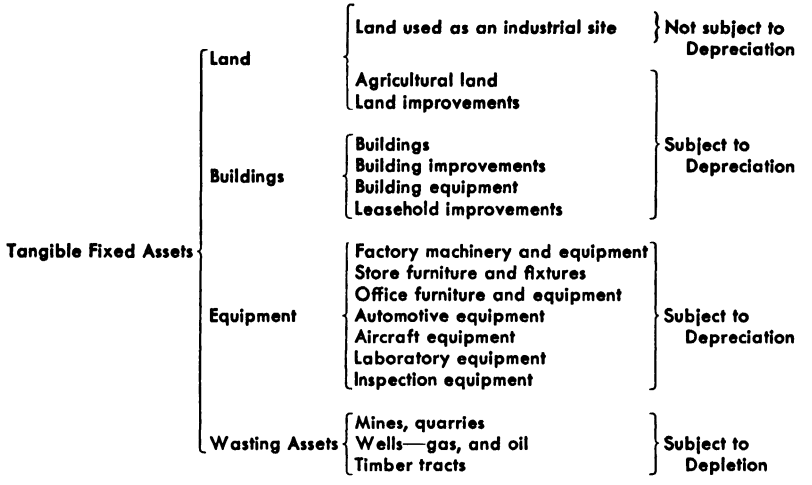
There are two principal categories of tangible fixed assets used in the conduct of most business operations: (1) land and buildings, and (2) equipment. If the enterprise is engaged in a primary occupation, such as mining or oil drilling, the principal tangible fixed asset is a mine or oil well. In this chapter, the following accounting and related problems arising from the use of these categories of tangible fixed assets are discussed:

1. Balance sheet presentation.
2. Cost.
3. Acquisition.
4. Depreciation and depletion.
5. Disposal.
6. Management problems related to the acquisition of tangible fixed assets.

Distinguishing Characteristics of Fixed Assets

1. It is inherent in the definition of fixed assets given above that a fixed asset, tangible or intangible, provides benefits to the enterprise through ownership or possession and use beyond the year of acquisition. Fixed assets are therefore relatively permanent and should render a

CLASSIFICATION OF TANGIBLE FIXED ASSETS



service to the enterprise for several fiscal years to distinguish them from supplies and other short-lived assets that provide benefits in the year of acquisition.

2. Tangible fixed assets are used in the principal operations of the enterprise. On the other hand, a long-term investment, such as shares of stock in another company, is not classified as a fixed asset because it is not used in the principal operations of the business even though it is relatively permanent and is also expected to provide economic benefits to the enterprise making the investment.

3. Fixed assets are not acquired for resale but are intended for use in the continued operations of the business. These assets are distinguished from other assets that may be acquired, held temporarily, and then disposed of or subsequently converted into a fixed asset. An example of the latter type of asset would be a purchase of a parcel of land for the purpose of building a factory upon it at a future date. Until the factory is built, the land is classified as an investment and not as a tangible fixed asset.

4. A *tangible* fixed asset has physical properties and is distinguishable from *intangible* fixed assets. One reason for the distinction is that intangible fixed assets represent property rights that pose somewhat different problems of valuation and amortization than do tangible fixed assets. A leasehold, for example, is defined as the cost to a tenant of acquiring a lease to property. It confers upon the lessee the right to use property without some of the obligations and other problems arising out of ownership. It is an intangible fixed asset and is described along with other similar assets in Chapter 19.

Balance Sheet Presentation Some of the foregoing classes of assets may be illustrated in a partial balance sheet in the following manner:

ASSETS

Current Assets: (details omitted)				$400,000
Investments and Other Assets:				
Investment in common stock (at cost) in the Hale Co., a subsidiary			$ 50,000	
Deposits with utilities			5,000	55,000
Tangible Fixed Assets:				
	Cost	Allowance for Depreciation	Book Value	
Land	$ 50,000		$ 50,000	
Building	150,000	$40,000	110,000	
Building improvements	15,000	5,000	10,000	
Machinery and equipment	75,000	25,000	50,000	
Office equipment	20,000	10,000	10,000	
Automotive equipment	15,000	7,000	8,000	
Totals	$325,000	$87,000	$238,000	238,000
Intangible Fixed Assets:				
Patents		$35,000		
Less: Amortization		20,000	$ 15,000	
Leasehold		$15,000		
Less: Amortization		3,000	12,000	27,000
Total Assets				$720,000

Cost of a Fixed Asset

As a general rule, the cost of a fixed asset is the sum total of the acquisition cost plus all expenses incurred in placing the asset into operating condition. These costs are:

1. The invoice or contract price of the asset, less any discount applicable to the purchase price.

2. The cost of materials, labor, and related construction expenses, if the asset is constructed by the enterprise for its own use.

3. Incidental expenses related to the acquisition, such as:

(a) Freight charges.

(b) Handling and other expenses necessary to place the asset in working order. These expenses occur frequently in the case of factory machinery and equipment.

(c) In the case of realty (i.e., land and related improvements): (1) Surveying expenses, (2) fees to attorneys, title examiners, brokers, and real estate closing fees, and (3) demolition costs of old structures on the land.

(d) In the case of buildings, the cost of excavations, architect's fees, and building permits.

Methods of Acquisition

Fixed assets may be acquired in different ways. The method of acquisition may raise problems of valuation as suggested below:

1. Purchase, either for cash, note payable, mortgage payable, or on open-book account. Sometimes, when equipment is purchased and a note is given in payment, the note includes prepaid interest in the face of the note. The interest is not part of the cost of the equipment. It does not add to the value of the equipment. The entry to record the purchase of a bookkeeping machine for $5,000 with interest at the rate of 6% per annum included in the face of the note is as follows. (The contract calls for payment in 12 monthly installments of $441.66, i.e., $5,300 ÷ 12.)

Equipment	5,000	
Prepaid interest expense	300	
Note payable		5,300

2. Purchase through the issuance of capital stock raises an important question concerning the value of the stock issued in payment. If the stock has a determinable market value, this value will usually determine the valuation of the asset acquired in exchange. If the stock does not have a market value, as is frequently the case of a corporation whose stock is closely held, the asset should be recorded at its cash price or at a value established by an expert appraisal. This will in turn establish the *value* of the stock issued.

3. Exchange. This method of acquisition is illustrated and explained in detail in a latter paragraph of this chapter.

4. Donation. Assets acquired in this manner should be recorded at their fair market value with a credit to the owner's equity under an appropriately captioned account. "Donated Capital" is an account title that has been used frequently.

5. Construction. If a company constructs its own building or manufactures its own machinery, the value of the asset is the cost to the company, not what the cost would be if purchased from an outside contractor.

The Plant Ledger In addition to recording fixed assets in the general ledger, they may be recorded in a subsidiary ledger, known as a plant ledger. Each card, page, or sheet in this ledger is a record of the acquisition, depreciation or depletion, and disposal of a single unit, or group of related units, i.e., an automobile, an airplane, a calculator, a battery of typewriters, or a building, to list only a few specific units of tangible fixed assets. Frequently, the plant ledger sheets contain a record of repairs

and units of product manufactured, as in the case of a factory machine. An illustration of a plant subsidiary ledger record card is shown on the opposite page.

A subsidiary ledger for fixed assets is recommended when the variety and volume of the units of any given class of fixed assets, for example, office machinery and equipment, is extensive enough to present problems of identification and control.

When a unit of equipment is acquired, it is tagged or marked with a number identifying it as, for instance, a piece of office equipment of a specific class, that is, whether it is a desk, a typewriter, a calculator, and so on. A code is recommended as an identifying symbol. For example, a code may consist initially of a given number of digits assigned to the general ledger account, "Office Equipment," such as the digits 1 2 3. Following these digits are digits that identify the asset as a class of office equipment. For instance, typewriters may be coded as 10, desks 20, file cabinets 30, and so on. To further identify the unit, other digits are added to the code indicating the location of the unit. The office manager's office may be coded 500, the sales manager's office 501, and so on. To illustrate an application of the foregoing code, the following is suggested as the code number for a desk purchased for the sales manager's office:

Office Equipment	Desk	Sales Manager's Office
123	20	501

This code is recorded on the plant ledger card, illustrated on the following page. In addition, space is provided on the front of the card for a description of the asset, the date acquired, the method and rate of depreciation, and a summary of the cost and disposal details. On the back of the illustrated form are columns for the cost, yearly depreciation, accumulated depreciation, and the yearly book value of the asset.

At the end of the fiscal year, after the year's depreciation has been recorded, the cards are totaled by: (a) cost, (b) accumulated depreciation, and (c) book value. The totals (a) and (b) should agree with the corresponding general ledger accounts. The total (a) minus the total (b) should agree with the total (c).

Causes and Nature of Depreciation

Some of the factors that contribute to the reduction in value and ultimate retirement or disposal of a fixed asset are:

Physical deterioration through use Every structure or piece of equipment will eventually wear out through use, even though the date may be postponed for some time through preventive maintenance and prompt

PLANT LEDGER CARD

Grey Steel Executive Desk—A-12	123-20-501
Description of Asset	Serial Number
Lemson Office Supply Co.	785
Bought From	Voucher Number
25 Main St. 10-5-62	10 years Straight-Line
Address Date Acq.	Est. Life 10% Method Depreciation 46.00
COST DATA	Rate Depr. Annual Depr. DISPOSAL
Invoice Amount (Less Discount) 450.00	Date ☐ Trade In ☐ Sale ☐ Other
Freight-Cartage 10.00	Cost
Installation	Accumulated Depr.
Other Charges:	Book Value
	Trade-In Allowance/Sale Price
Total Cost 460.00	Gain/Loss

FRONT

Grey Steel Executive Desk—A-12					123-20-501			
Description					Serial Number			
Asset					Accumulated Depreciation			
Date	Ref.	Debit	Credit	Balance	Debit	Credit	Balance	Bk. Val.
19 62 10 5	V785	460 00		460 00				460 00

BACK

repair. As a factor, however, in determining the useful life of an asset to an enterprise, physical deterioration is not considered as important as economic obsolescence.

Economic obsolescence This is the most important factor in the determination of the service or useful life of an asset. Some events that cause economic obsolescence are: (a) Changes in the demand for the service or the product produced by the asset, and (b) Changes in the technology of production either through the development of a more efficient asset or in the methods of production, i.e., automation.

The basic meaning of the term depreciation is that it is a lessening in value of a tangible fixed asset. But when used in the expression "depreciation accounting," depreciation refers to the spreading of the cost of a tangible fixed asset over its estimated useful life.[1] The relationship, then, of the nature of depreciation to depreciation accounting is in the determination of the useful or service life of the asset. While there are scientific methods developed by engineers that can be used to compute the service life of an asset, they are outside the scope of this text. However, many years of experience in dealing with the problem have provided business men and accountants with a range of service lives for different classes of assets that have proved to be generally satisfactory. The Internal Revenue Service has published *Bulletin F* as a guide to the taxpayer (see Note, page 423). Some examples of service lives recommended in *Bulletin F* are:

Buildings: (apartments 20–40 years; factories 50 years, depending on the nature of the construction).
Motor Vehicles: (automobiles—passenger 5 years; salesmen 3 years).
Office Equipment: (adding machines 10 years; bookkeeping machines 8 years).

While these rates are not mandatory upon the taxpayer, the use of substantially shorter lives may have to be justified by the taxpayer upon an examination of his tax return.

Methods of Depreciation

There are several methods of computing the depreciation in use by business enterprises. The more common ones which will be described in detail are:

1. Straight-line method.
2. Units-of-production method.

[1] Cf. *Accounting Terminology Bulletin Number 1,* Review and Résumé, prepared by the Committee on Terminology of the American Institute of Accountants (now American Institute of Certified Public Accountants), New York, 1953, pp. 24–25.

3. Sum-of-the-years'-digits method.
4. Declining-balance method.

Straight-Line Method The *annual charge* for depreciation by this method is determined by the formula:

$$D = \frac{C - S}{N}$$

where D = annual amount of depreciation
C = cost (including all appropriately capitalized expenses)
* S = scrap or salvage value
N = years of service life

Example: A bookkeeping machine is purchased at a cost of $6,000. It has an estimated salvage value of $600 and a service life of five years.
Solution:

$$D = \frac{6{,}000 - 600}{5} = \frac{5{,}400}{5} = \$1{,}080 \qquad \text{Annual Depreciation}$$

The *rate* of depreciation in the foregoing example is found by dividing the annual depreciation (D) by the cost (C):

$$1{,}080 \div 6{,}000 = 18\%$$

The *book value* of the asset is found by deducting the accumulated allowance for depreciation from the cost (C). At the end of the first year the bookkeeping machine in the preceding example has a book value of $4,920.

$$\begin{aligned} \text{Book value} &= C - (N \times D) \\ &= 6{,}000 - (1 \times 1{,}080) \\ &= \$4{,}920 \end{aligned}$$

The following table is a tabulation of yearly depreciation charges and resulting book values over the life of the asset:

* In practice, the salvage or scrap value is often ignored, particularly when the amount is considered to be insignificant.

End of Year	Asset Cost	Annual Depr.	Accumulated Depr.	Book Value
0				$6,000
1	$6,000	$1,080	$1,080	4,920
2	6,000	1,080	2,160	3,840
3	6,000	1,080	3,240	2,760
4	6,000	1,080	4,320	1,680
5	6,000	1,080	5,400	600

When an asset is acquired during the year, accountants follow different practices with regard to the accounting for depreciation *during* the first year. Depreciation may be computed:

1. For the exact number of days between the date of acquisition and the end of the year. (This procedure is seldom followed.)

2. For the number of months from the beginning of the month following the month of acquisition to the end of the fiscal year. For example, if the fiscal year ends December 31, and an asset is acquired on April 21, the depreciation the first year would cover the period May 1 to December 31, or eight months. This method of computing depreciation is commonly followed.

3. Some companies take a whole month into account if the asset is acquired between the 1st and 15th of a month. For example, if the fiscal year ends December 31, and an asset is acquired on September 4, the time period would run from September 1 to December 31 or four months. The amount of depreciation the first year would be 4/12 of a full year's depreciation. An asset acquired during the last half of a month would be depreciated as though acquired on the first day of the following month.

It is important that the accountant follow a consistent policy in accounting for depreciation regardless of the method that is adopted. This is true not only with respect to the problem of acquisition during the year but also to the method of computing depreciation.

Example—Acquisition during the year (following practice (3) above): An asset costing $6,000, with a salvage value of $600 is acquired on July 10. It has a service life of five years. What is the depreciation to December 31 during the year of acquisition? Having been acquired during the first half of the month, July is treated as a whole month. The number of months for which depreciation is taken is 6.

$$D = \frac{6{,}000 - 600}{5} \times \frac{6}{12}$$

$$= 1{,}080 \times \frac{6}{12}$$

$$= \$540 \text{ depreciation during the year of acquisition}$$

Units-of-Production Method The units of production used under this method as a basis for the allocation of the cost of a fixed asset may be in terms of hours of anticipated production or the number of units of the product to be produced. For example, a small machine shop serving as a sub-contractor for a large manufacturer receives an order to manufacture 100,000 component parts to be assembled by the manufacturer into an electronic device being produced under a government contract. Having never made these parts, the sub-contractor must purchase $6,000 worth of special machinery. There is little possibility that this machinery will be used on another order. The sub-contractor decides to depreciate the $6,000 on the basis of the 100,000 units to be produced on the order. At the end of five years when the order is expected to be completed, the sub-contractor believes that the machinery will have a salvage value of $600. The formula for this method is:

$$R = \frac{C - S}{P}$$

where R = the cost or rate of depreciation per unit
P = the total units of production representing the assumed service life of the asset
S = the salvage value

Solution:

$$R = \frac{6{,}000 - 600}{100{,}000}$$

$$= \frac{5{,}400}{100{,}000}$$

$$= \$.054 \text{ per unit of production}$$

If the sub-contractor produces 30,000 units the first year, the depreciation expense is:

$$30{,}000 \times \$.054 = \$1{,}620$$

The book value of the asset at the end of the first year would then be

$$\$6{,}000 - 1{,}620 = \$4{,}380$$

Sum-of-the-Years'-Digits Method The hypothesis underlying this method of computing depreciation is that the loss of economic usefulness of an asset is greatest during the early years of its service life. Other reasons are that an asset is more productive and repairs and maintenance are less during the earlier years. Consequently in order to achieve a proper matching of costs and revenues, more depreciation should be taken during the early years of an asset's life. In recent years this method of

depreciation has become popular because of the liberalizing provisions of the 1954 Internal Revenue Code, with regard to depreciation allowances. To illustrate this method, the example of a factory machine, acquired on January 2, at a cost of $6,000, with an estimated life of five years and a salvage value of $600, is set forth below:

The formula for this method is:

$$D = N\left(\frac{C - S}{SYD}\right)$$

where D = the annual cost of depreciation
C = the cost of the asset
S = the salvage value
SYD = the sum of the years' digits, or in this example the sum of the digits 1 through 5 $(1 + 2 + 3 + 4 + 5) = 15$
N = the nth year in inverse order, i.e., 5 the first year, 4 the second year, 3 the third year, 2 the fourth year, and 1 the fifth year

$$D = 5\left(\frac{6{,}000 - 600}{15}\right)$$

$$= 5\left(\frac{5{,}400}{15}\right) = 5 \times 360$$

= $1,800, the first year's depreciation.

The depreciation of an asset acquired during the year, using the sum-of-the-years'-digits method, may be determined by dividing the fractional multipliers between the current and the succeeding year. For example, if the machine in the preceding example was acquired on June 30, 1960, each year's depreciation is computed as follows. (The depreciation is figured from the beginning of the following month.)

End of Year	Asset Base	Year's Fraction		Year's Depr.	Accumulated Depr.	Cost	Book Value
0	$5,400					$6,000	$6,000
12/31/60	5,400	5/15	(½)	$900	$ 900	6,000	5,100
12/31/61	5,400	5/15	(½)	900			
	5,400	4/15	(½)	720	2,520	6,000	3,480
12/31/62	5,400	4/15	(½)	720			
	5,400	3/15	(½)	540	3,780	6,000	2,220
12/31/63	5,400	3/15	(½)	540			
	5,400	2/15	(½)	360	4,680	6,000	1,320
12/31/64	5,400	2/15	(½)	360			
	5,400	1/15	(½)	180	5,220	6,000	780
12/31/65	5,400	1/15	(½)	180	5,400	6,000	600

Declining-Balance Method The use of this method of determining the annual cost of depreciation is principally due to its allowance in the 1954 Internal Revenue Code.[2] Fundamentally, this method is based on the

[2] Cf. Section 167 of the 1954 Internal Revenue Code.

same concept of depreciation as the sum-of-the-years'-digits method. The principal difference is that the rate of depreciation is applied to the declining balance (i.e., the book value) of the asset each year, instead of the original cost. The following steps outline the procedure to be followed:

1. Ascertain the service life of the asset.
2. Divide the cost of the asset by its service life (no provision is made for scrap or salvage value in making this computation). The quotient is the annual depreciation according to the straight-line method.
3. Divide the annual straight-line depreciation allowance by the cost. The quotient is the rate of depreciation based on the cost.
4. The maximum rate allowed by the Internal Revenue Code in using the declining-balance method is twice the annual straight-line method. It is this rate that will be used throughout in the explanation and illustration to follow. Multiply the cost by the rate. The product is the first year's depreciation.
5. Subtract the depreciation from the cost to arrive at the book value at the end of the first year.
6. Multiply the book value at end of the first year by the rate (computed in 4). The product is the second year's depreciation.
7. Repeat steps 5 and 6 for the years of its estimated service life. At the expiration of this time, no further depreciation is to be taken, unless the asset is still in use. Depreciation is then continued until the book value of the asset is reduced to a reasonable salvage value.[3]

For example, a delivery truck is purchased for $6,000. Its service life is five years, with a salvage value of $600.

1. The annual straight-line depreciation is $1,200 ($6,000 ÷ 5).
2. The straight-line rate of depreciation is 20% ($1,200 ÷ $6,000).
3. Twice the straight-line rate is 40% (20% × 2).
4. The first year's depreciation is $2,400 ($6,000 × 40%).

The following is a tabulation of the depreciation for the five-year period:

End of Year	Col. 1 Asset Cost	Col. 2 Rate of Depr.	Col. 3 Amount of Depr.: Col. 2 × Col. 5	Col. 4 Accumulated Depr.	Col. 5 Book Value
0	$6,000				$6,000.00
1	6,000	40%	$2,400.00	$2,400.00	3,600.00
2	6,000	40	1,440.00	3,840.00	2,160.00
3	6,000	40	864.00	4,704.00	1,296.00
4	6,000	40	518.40	5,222.40	777.60
5	6,000	40	* 177.60	5,400.00	600.00

* The amount of depreciation taken cannot reduce the book value below the salvage value.

[3] Income Tax Regulations, 1.167(b)-2.

Comparison of the Methods of Computing Depreciation

In each of the illustrations presented above to describe the methods of depreciation, it was assumed that an asset costing $6,000 had a salvage value of $600 and a useful life of five years. The following tabulation is a comparison of the yearly amounts of depreciation under the four methods described:

End of Year	Straight Line	Units of Production *	Sum of the Years' Digits	Declining Balance
1	$1,080	$1,620	$1,800	$2,400.00
2	1,080	1,350	1,440	1,440.00
3	1,080	1,080	1,080	864.00
4	1,080	810	720	518.40
5	1,080	540	360	177.60
Total	$5,400	$5,400	$5,400	$5,400.00

* Based on assumed production of 100,000 spread over the five-year period of 30,000; 25,000; 20,000; 15,000; and 10,000 units at a rate of $.054 per unit.

Disposal of Fixed Assets

Fixed assets may be disposed of in various ways. The accounting procedures for the more common methods are described in the following paragraphs. Briefly, they are:

1. Sale.
2. Exchange or trade-in.
3. Retirement.
4. Destruction by fire or other catastrophe.

Sale When a fixed asset is disposed of, the cost of the asset and the accumulated depreciation thereon must be removed from the books of account. Entries debiting the accumulated depreciation and crediting the asset account should be made simultaneously with the recording of the proceeds of the sale. The difference between the book value (cost less accumulated depreciation) and the selling price is debited or credited to an account titled "Gain or Loss on the Sale of Fixed Assets." Some accountants may prefer one account in which to record losses and another account in which to record gains.

Illustration:		
Automobile cost	$3,700	
Accumulated depreciation	2,220	
Book value	$1,480	
Selling price	1,200	
Loss	$ 280	
Entry to record the sale:		
Cash	1,200	
Allowance for depreciation	2,220	
Loss on sale of fixed assets	280	
Automobiles		3,700

If the automobile had been sold for $1,600, resulting in a gain of $120, the entry would be:

Cash	1,600	
Allowance for depreciation	2,220	
Gain on sale of fixed assets		120
Automobiles		3,700

The account, "Gain or Loss on Sale of Fixed Assets," is considered to be an *extraneous loss or gain;* it is shown on the income statement as an addition to, or deduction from, the net operating income. The Committee on Accounting Procedures of the American Institute of Certified Public Accountants in its *Accounting Research Bulletin Number 43* recommends that, if the loss or gain is material in relation to a company's net income, such extraneous gain or loss is to be excluded from the determination of the net income of the year.[4] Accordingly, the American Institute Committee recommends that a material loss or gain on the sale of fixed assets be debited or credited to the Retained Earnings account.[5]

Exchange or Trade-In When a fixed asset held for productive use in business, or held for investment, is traded in on the purchase of a similar asset, the Internal Revenue Code does not recognize a gain or a loss on the transaction. The unrecorded gain or loss is reflected in the carrying value of the new asset acquired, thereby permitting greater or lesser depreciation in the future. The income tax rule, therefore, is that the new asset acquired in a trade-in has a carrying value for income tax purposes at an amount equal to the book value of the old asset plus any cash or other consideration given. Assume the following:

Old asset has a cost	$3,500	Purchase price, new asset	$3,800
Accumulated depreciation	2,700	Deduct the unrecorded gain on the trade-in of the old asset	100
Book value	$ 800		
Trade-in allowance	900	Carrying value of the new asset	$3,700
Gain on the trade-in	$ 100		

[4] Page 63.
[5] *Ibid.*, page 64.

The entry to record the purchase of the new asset and the trade-in of the old asset occurs simultaneously. It is therefore desirable to enter all the details of the transactions in one journal entry as follows:

Machinery	3,700	
Allowance for depreciation—Machinery	2,700	
Machinery (old asset)		3,500
Cash		2,900

If the old machinery has a trade-in allowance of only $700, the new asset would have a carrying value of $3,900. This is equal to the book value of the old asset, $800, plus an additional cash payment of $3,100 (i.e., the purchase price of the new asset, $3,800, less the trade-in allowance of $700). The entry to record the purchase and trade-in is:

Machinery	3,900	
Allowance for depreciation—Machinery	2,700	
Machinery		3,500
Cash		3,100

If the gain or loss on the trade-in is significant in amount, it should be recorded in the account, Gain or Loss on Sale of Fixed Assets, irrespective of the requirements of the income tax rule. However, if the gain or loss is recorded separately, a subsequent adjustment is required on the company's annual income tax return. The depreciation expense is then based on a different figure on the books of account from the amount used for income tax purposes.

Retirement If an asset is fully depreciated and is still in use, it is recommended that the cost and accumulated depreciation continue to be recorded on the books of account and included on the balance sheet, even though one amount offsets the other. However, if the asset is permanently retired, it should be transferred to a separate section of the plant ledger and removed from the fixed asset account in the general ledger. As the asset is still in the possession of the company, and presumably has some value, it should be carried in a separate section of the plant ledger for control purposes. The entry to remove a retired asset is:

Allowance for depreciation—Machinery	4,000	
Machinery		4,000
To remove lathe number 75, retired and placed in a warehouse pending future disposal		

Destruction When a fixed asset is destroyed, for instance by a fire, it should be removed from the accounts, together with the accumulated depreciation recorded to the date of the loss.

For example, a building costing $75,000 with an accumulated deprecia-

tion to Dec. 31 of the preceding year of $40,000 is destroyed by fire on June 30. The following entries should be made (as of June 30):

Depreciation expense—Building	750	
Allowance for depreciation—Building		750
To record depreciation on building, costing $75,000 at the rate of 2% per annum, for one-half year.		
Fire loss	34,250	
Allowance for depreciation—Building	40,750	
Building		75,000
To close the Building account, and the related depreciation and charge the book value of the building destroyed by fire on June 30 to a Fire Loss account.		
Claim against Insurance Co.	25,000	
Fire loss		25,000
To record insurance recoverable from the insurance company		

The Fire Loss account is an extraneous, nonrecurring loss and is shown as such either on the income statement or statement of retained earnings. The choice lies between acceptance of the all-inclusive concept of income or the current operating performance concept of income. These theories are discussed in detail in Chapter 23.

Correction of Depreciation Rate

If the rate of depreciation and, therefore, the prior years' accumulated depreciation is found to be incorrect, the following procedure may be employed to correct it. This procedure is approved by the American Institute of Certified Public Accountants and is required by the Internal Revenue Service,[6] when the rate is incorrectly estimated.

Determine the correct rate of depreciation for the remaining years of service life and disregard the correction of prior years' depreciation.

Example: A building costing $60,000 was purchased on January 2, 1950. It has an original rate of depreciation of 4% (based on a 25-year useful life—salvage value is disregarded in this illustration). On January 2, 1960, it is determined that the building has a remaining useful life of 20 years, or a total estimated useful life of 30 years, rather than the 25 years as

[6] *Accounting Research Bulletin No. 27,* issued November, 1946, by the Committee on Accounting Procedure, American Institute of Accountants; Income Tax Regulations 1.167(b)-3, pp. 223–224. Cf. also IT 3639; CB 1944, p. 123.

originally estimated. The details required to correct the rate are as follows:

Building cost		$60,000
Less: depreciation taken for 10 years (January 2, 1950 to January 2, 1960) at 4% per annum		24,000
Book value, January 2, 1960		$36,000
Corrected annual depreciation:		
$36,000 ÷ 20 years		$ 1,800
Corrected rate of depreciation		3%
Beginning with December 31, 1960, and each year thereafter, the annual charge for depreciation will be recorded as:		
Depreciation expense	1,800	
Allowance for depreciation—Building		1,800

Depletion of Natural Resources

Depletion accounting provides for the reduction in the value of the asset only when it is in use, that is, only when the resources provided by nature are being extracted from the land. Tangible fixed assets which are subject to depletion are called *wasting assets.*

Generally, the capitalized cost of the natural resource includes such expenditures as the cost of the land, exploration expense, legal fees, scientific investigations, and other expenditures necessary to place the resource into productive use.

Determining the quantity of recoverable resources is a difficult task and ranges from an experienced guess to a complicated scientific study. Estimating the number of board feet in a stand of timber is relatively easy and accurate. However, estimating the quantity of precious metals in an underground vein of ore, even though based on a geological study and survey, is often subject to a wide margin of error.

The unit charge for depletion is found by dividing the capitalized cost of the asset by the estimated quantity of recoverable resources. The quotient is expressed in terms of the unit peculiar to the industry, e.g., board feet, gallons, barrels, tons, ounces, and so on.

The rate of depletion is multiplied by the quantity of the resource recovered during the accounting period. The product is the annual charge for depletion.

The following example illustrates the foregoing procedures:

Timber tract, cost	$50,000
Estimated number of board feet	1,000,000
Rate of depletion:	
$50,000 ÷ 1,000,000	5 cents per board foot
usually expressed as	$50 per 1,000 board feet
Current year's production	30,000 board feet
Current year's depletion charge:	
30,000 × $50 per 1,000	$1,500

The journal entry to record the depletion for the year when 30,000 board feet of lumber were cut from the timber tract is:

Depletion expense	1,500	
Allowance for depletion—Timber tract		1,500

The $1,500 depletion is part of the inventory cost of the cut timber, to which are added labor and other costs of operations. If 20,000 board feet of lumber are sold, the cost of goods sold and resulting inventory are as follows (labor and other operating costs are excluded):

Cost of goods sold, 20,000/30,000 × $1,500 or $1,000
Inventory, 10,000/30,000 × $1,500 or $500

Repairs, Replacements, Additions, and Improvements

In addition to the initial expenditure for a fixed asset and the related expenditures to place the asset in a condition to operate productively, there are subsequent expenditures that should also be capitalized.

There are two criteria that accountants follow in deciding whether to capitalize expenditures, variously referred to as repairs, replacements, additions, or improvements to a previously acquired fixed asset.

1. Does the expenditure materially add to the value of the asset, or does it add a value not previously embodied in the asset?
2. Does the expenditure substantially prolong the life of the present asset beyond its originally estimated service life?

The following examples illustrate the application of these rules:

Example 1: A store building is remodeled at a cost of $15,000 after it has been occupied for 15 years of its estimated useful life of 25 years. The $15,000 is a capital expenditure because it is a material *addition to the value* of the building. It is assumed that it does not prolong its life beyond its estimated service life. The added value of $15,000 is therefore depreciated over the *remaining life* of the building, or a period of 10 years, or by $1,500 a year. To distinguish between the cost of the building improvement and the cost of the building, it is desirable to record the additional cost in a separate account, "Building Improvements."

Example 2: A machine costing $10,000 is completely overhauled at the beginning of the ninth year of its estimated life of 10 years at a cost of

$3,000. Worn-out parts are replaced, and the machine is restored to the efficient operation of a new machine. The $3,000 expenditure is called an extraordinary repair. Although it may not materially add to the resale value of the asset (it is still a second-hand machine), it does prolong its useful life. But for how long? As a practical solution, the same yearly depreciation (in this example, $1,000) is taken until the asset is fully depreciated or reduced to its salvage value (in this example, three more years). Theoretically, however, if reliable information is available, the life of the asset should be re-estimated. The expenditure is not treated as an addition to the cost of the asset. It is recorded as a debit to the accumulated depreciation. This, in effect, reduces the accumulated depreciation by restoring and extending a portion of its useful life, thus permitting further depreciation. The entry to record the expenditure is:

Allowance for depreciation—Machinery	3,000	
Vouchers payable		3,000

The general ledger accounts appear as follows through the end of the thirteenth year. In this illustration, no allowance has been provided for salvage value.

MACHINERY AND EQUIPMENT	
10,000	

ACCUMULATED DEPRECIATION—MACHINERY	
	8,000 (1,000 a year for 8 years)
Repair 3,000	
	1,000 (9th year)
	1,000 (10th year)
	1,000 (11th year)
	1,000 (12th year)
	1,000 (13th year)

A major replacement is recorded in the same manner as an extraordinary repair, but with one further difficulty. A strict accounting requires that the part replaced, for example, an old motor in a machine, be credited to the asset account. This in turn requires that the accumulated depreciation account be relieved of that part of the depreciation that applies to the motor. This practice is not generally followed because of the complexity and possible arbitrariness in allocating the cost of an asset among its component parts, and determining different service lives for each part.

One example in which this procedure is feasible, however, is in the depreciation of an apartment building. Instead of one rate for the entire building, different rates can be established for the elevators, the fixtures, stairways, and other integral parts of the building.

Management Decision-Making

In addition to the accounting problems of valuing, depreciating and disposing of tangible fixed assets, management is also faced with the problem of making the "right" decision when considering the acquisition of a fixed asset. The importance of making a correct decision is particularly significant to management in the area of fixed asset acquisitions. There are several reasons:

1. A fixed asset usually constitutes a substantial investment of a company's capital for a considerable length of time.

2. If the asset is proposed to increase the efficiency or productivity of the enterprise, either in the office or in the plant, management has the responsibility of justifying the expenditure to the owners in terms of an increased return on the owners' investment.

3. Some fixed asset acquisitions will involve a fundamental change in the company's procedures, sufficient to cause management to give serious consideration to the need for the change. For example, the introduction of an electronic computer in the processing of figures, reports, and other paper work often involves a degree of integration in the company's administrative structure hitherto not considered feasible. The impact of a change of this nature will affect a company's organizational structure from top to bottom. Therefore, a step of this magnitude should not be taken without a considerable study of existing procedures and future developments.

An investigation by management into the area of capital acquisition is called a *feasibility study.* Such a study requires: (1) a complete and comprehensive definition of the problem, (2) a comparative study of costs and revenue under various alternatives, (3) a consideration of the effect of the various alternatives upon the company as a whole, and (4) a recommendation from management as to the course of action to be taken.

Accountants are particularly helpful to management in the second phase of the feasibility study—the gathering and presentation of financial and cost information to assist management in making a sound decision. In this presentation, accountants consider only those costs that are *differential* or *incremental.* Those costs that are not expected to change, whatever the decision, are omitted from the comparative cost analysis. Depreciation on the existing and proposed assets is included as a factor only to determine the annual income tax. The depreciation is then excluded from the cost figures in order to reduce the comparative costs to a comparison of yearly expenditures only.

QUESTIONS

1. What are the three characteristics of a fixed asset?
2. What are the three categories of tangible fixed assets?
3. Why is a leasehold classified as an intangible fixed asset?
4. What are the principal classes of expenditures that are classified as tangible fixed assets?
5. State five principal means by which fixed assets are acquired.
6. Is a plant ledger a subsidiary ledger? Explain.
7. With what accounts on the general ledger do the figures in the plant ledger agree?
8. Of what value is the coding and tagging of equipment?
9. Define depreciation. What are a few of the meanings associated with the term "depreciation"?
10. At times, some business men have expressed the thought that, because depreciation is not an expenditure of current funds, it makes no difference whether depreciation is recorded, especially when a company is not earning a net income. Discuss this argument.
11. A business man has purchased a new piece of equipment with which he has had no previous experience. He asks you to point out the factors that should be considered in determining a rate of depreciation.
12. "Depreciation is a bookkeeping fiction. No one can accurately figure the annual depreciation of a machine." Answer this argument.
13. Describe the manner of computing the periodical amount of depreciation under the following methods of depreciation:
    (a) Straight-line.
    (b) Units-of-production.
    (c) Sum-of-the-years'-digits.
    (d) Declining-balance.
14. Describe the procedures followed in accounting for depreciation during the year of acquisition when the asset is owned for a fraction of the year:
    (a) Following the straight-line method.
    (b) Following the SYD method.
15. An asset costing $5,000 with accumulated depreciation of $4,000 is traded in for a similar asset costing $6,000, less an allowance of $500 on the old machine. Give the journal entry to record the trade-in, according to the income tax rule.
16. An asset costing $15,000 has been depreciated for five years of its original service life of ten years. It is decided that the service of the asset should be extended by an additional five years. How much depreciation should be taken in the sixth year? (Using the straight-line method.)
17. Define depletion. To what class of assets does depletion apply?
18. What criteria does the accountant use in determining whether to capitalize an expenditure?
19. What are the major parts of a feasibility study?

PROBLEMS

Problem 18-1

Journalize the following transactions as they appear on the books of the Ainsworth Company. Set up a separate account for each machine and a related account for the allowance for depreciation.

1962

January 1—Purchased Machine No. 1 for $5,000. Freight and installation expenses were $500. It is estimated that the machine has a useful life of five years and a residual value of 10% of the cost.

May 1—Acquired Machine No. 2 for $3,000. The machine has no residual value and an estimated useful life of three years.

July 1—A fixture to be used on Machine No. 1 was purchased for $1,000.

August 1—The motor on Machine No. 2 burned out and was repaired at a cost of $75.

December 31—Record depreciation for the year. (Based on the straight-line method.)

1963

April 1—Traded in Machine No. 2 for Machine No. 3, costing $4,000. Machine No. 3 has an estimated life of ten years and a salvage value of $400. A trade-in allowance of $500 was received for Machine No. 2. (Note)

December 31—Record depreciation for the year.

Note: Disregard the income tax rule in recording the gain or loss on the trade-in.

Problem 18-2

Prepare general journal entries (with complete explanation) for the following transactions:

(A) The Z Co. purchased a panel truck costing $5,000. The truck had an estimated salvage value of $500 and an estimated life of five years.

(B) The depreciation on the truck for the first year was based on the sum-of-the-digits method.

(C) On the first day of the third year, the truck was damaged and was traded in on a new truck costing $6,000, less an allowance of $300 on the damaged truck. (Capitalize the new truck based on the Internal Revenue Code.)

Problem 18-3

A company is forced to move to make way for the construction of an expressway. Having been advised a year in advance by the state highway department that their building is to be condemned, the management began the construction of another building. The following costs and expenses were capitalized in a "New Building" account.

Purchase land site	$ 30,000
Cost of construction of access road	10,000
Attorney's fees to examine title and represent the buyer at the closing of the sale	500
Other costs in closing the land purchase	1,000
Building contractor	200,000
Landscaping—Trees, shrubbery, etc.	5,000
Architect's fee	10,000
Interest on mortgage	18,000
Real estate taxes	500
Office furniture	6,000
Black-top parking lot	3,000
Oil portrait painting for the President's office	500
	$284,500

Required:

Analyze the foregoing transactions and prepare a journal entry or entries setting up separate accounts for land, building, or any other accounts that will properly classify these transactions.

Problem 18-4

A company is considering the purchase of a medium-size electronic computer costing $600,000. The question is raised as to the yearly expense for depreciation and the method of depreciation to adopt. Because of rapid changes in design, a five-year service life is chosen. Disregarding any possible trade-in value, prepare a tabulation showing the depreciation expense for the first three years using the following methods of depreciation.

(a) Straight-line.
(b) Sum-of-the-years'-digits.
(c) Double-declining balance.
(d) Units-of-production, on the basis of 30,000 estimated hours of operation: 3,000 hours the first year, 6,000 hours the second year, and 7,000 hours the third year.

Show all calculations for each of the three years.

Problem 18-5

A delivery truck was purchased on July 1, 1959, for $6,000. The company estimated its useful life to be four years with no salvage value. During 1962, while making a routine examination of company's records, an internal revenue agent claimed that the delivery truck should have been depreciated over a seven-year life and salvage of 6⅔% of the cost taken into account. Assuming that the company has been using the sum-of-the-years'-digits method of depreciation: (A) Determine what effect the change in depreciation expense for the years 1959, 1960, and 1961 will have on the company's income tax for those years, assuming a tax rate of 30%; (B) How much depreciation will be recorded for the year 1962, and each year for the remaining useful life of the asset if the company changes to the straight-line method during 1962.

Problem 18-6

A coal company acquired mineral properties at a cost of $1,000,000. A preliminary survey indicated that the property contained 100,000 tons of coal. During the first year's operations, 5,000 tons were mined and 4,000 tons were sold.

(A) Prepare the journal entry to record the depletion expense during the first year.

(B) Assume that, at the beginning of the second year, a further survey reveals that the original estimate of 100,000 tons was incorrect and that the mine now contains 120,000 tons. What is the revised unit cost of depletion. *Note:* The Internal Revenue Service considers the basis for the property to be the cost less depletion taken on the *number of tons sold.*

SUPPLEMENTARY PROBLEMS

Problem 18-7

The Deep Hole Mining Co. is organized on July 1 with an authorized issue of 1,000,000 shares of no-par common stock, of which 500,000 shares are sold for $5 per share. A tract of land is purchased for $500,000 in exchange for 400,000 shares of stock. A geological survey indicates that the mine contains about 2,500,000 tons of ore, yielding about 15 pounds of copper per ton of ore. During the following six-months' period, 100,000 tons of ore are mined. The percentage of copper anticipated is realized and sold for $.30 a pound. The cost of mining operations exclusive of depletion is $.20 a pound of copper produced.

Required:

Prepare all journal entries for the transactions incurred during the six-months' period.

(Form 3)

Problem 18-8

The following accounts are on the books of the Vanguard Co. as of December 31, 1962, the end of the fiscal year:

OFFICE EQUIPMENT

Jan. 1, 1958	3,600
Mar. 1, 1962	1,500
Apr. 1	600

ALLOWANCE FOR DEPRECIATION OFFICE EQUIPMENT

Jan. 1, 1962	1,440
Jan. 31	30
Feb. 28	30
Mar. 31	55
Apr. 30	75

DELIVERY EQUIPMENT

Jan. 1, 1959	3,600	Jul. 31, 1962	900

ALLOWANCE FOR DEPRECIATION DELIVERY EQUIPMENT

Jan. 1, 1962	2,700

During the current year the bookkeeper recorded depreciation on the office equipment for only four months, as indicated by the entries in the above

accounts. Depreciation on the acquisitions of office equipment during 1962 was figured on the double-declining balance method. Previously acquired office equipment was depreciated on the straight-line method, using a ten-year life. On July 31, the delivery equipment was sold for $900, after being used for three years.

Required:

(A) Prepare entries to adjust the Delivery Equipment account and the Allowance for Depreciation as of December 31.

(B) Prepare entries to record depreciation on the office equipment as of December 31.

(C) What are the rates of depreciation and the estimated useful lives of the office equipment acquired during the year?

(Form 3)

Problem 18-9

On July 1, 1962, in order to reduce operating costs, the M and M Development Co. installed a new automatic elevator in an office building that it owns; the new elevator cost $100,000. At the end of the fiscal year, December 31, 1962, the following accounts appear in the general ledger:

BUILDING		ALLOWANCE FOR DEPRECIATION—BUILDING	
Jan. 1, 1958	750,000	Dec. 31, 1958	30,000
Jul. 1, 1962	100,000	Dec. 31, 1959	30,000
		Dec. 31, 1960	30,000
		Dec. 31, 1961	30,000
		Dec. 31, 1962	34,000

Before the books are closed, it is decided that the new elevator should be depreciated over the remaining life of the building. It is also decided that the cost of the elevator, the depreciation expense, and the allowance for depreciation should be recorded in separate accounts. An adjustment should also be made for writing off the old elevator, which cost $50,000 installed. The old elevator has no salvage or trade-in value.

Required:

(A) Prepare all the necessary adjusting entries as of December 31, 1962.

(Form 3)

Problem 18-10

The Transport Company owns two trucks that cost $10,000 each, upon which $18,000 depreciation has been accumulated. A third truck costing $12,000 has been depreciated by $4,000. The company has decided to trade-in the first two trucks on two new trucks. The third truck is overhauled at a cost of $800.

The new trucks cost $15,000 each, plus excise taxes of 10%, less a trade-in allowance on the old trucks of $500 each. Special equipment for the new trucks cost $400 each.

A new set of tires is purchased for the old truck at a cost of $600,

Required:

(A) Record the foregoing transactions. In recording the entries for the trade-in, follow the procedures required by the Internal Revenue Service.

(B) Assuming that the above transactions took place at the beginning of the fiscal year, record the current year's depreciation expense. The trucks have an estimated useful life of five years. The straight-line method of depreciation is followed.

(Form 3)

NOTE: On July 11, 1962, the Treasury Department made public Internal Revenue Service revised procedure 62-21. This new procedure replaces the depreciation guide lines previously established in the Treasury Department's Bulletin "F" to which reference is made in Chapter 18. The new depreciation guide lines, however, do not effect changes in the methods of depreciation outlined in Chapter 18 but may effect, if adopted by a taxpayer, changes in the tax deduction for depreciation, to which references also have been made in Chapter 18. The principal change produced by the new regulations is to correlate a taxpayer's service tax life used as a basis for claiming depreciation expense write-off with his practice in retiring and replacing assets. The fundamental accounting principles and procedures described in Chapter 18 to account for depreciation are not changed by the new Internal Revenue Service regulations.

19

Investments, Intangible Assets, Deferred Charges, and Other Assets

INVESTMENTS

Nature of Investments

Frequently, well-managed profit and non-profit enterprises have idle funds that can be invested in the securities of other enterprises. These idle funds may be part of the enterprise's working capital, available for temporary, short-term investment; or cash representing a portion of capital in excess of the firm's needs. These latter funds are available for long-term investment in other companies for the purpose of expansion and control. A growing source of investment funds is cash deposited in pension and profit-sharing trusts. Subject to certain governmental and contractual restrictions, these latter types of funds can be, and usually are, in turn invested either for short-term or long-term purposes. Thus, there are two types of investments that are related to the purposes for which they are made: (a) short-term, and (b) long-term. Whether an investment is to be classified as one or the other depends largely upon management's reasons for acquiring the investment. These reasons in turn tend to determine the length of time the investment is to be held. Two factors, then, (a) the purpose of acquisition, and (b) the intended holding period, affect the accounting for investments and their balance sheet presentation.

An enterprise may invest funds in a variety of forms, such as stocks, bonds, mortgages, certificates of deposit, real estate, loans receivable,

and many others. Stock investments may be in either common or preferred stocks; bonds may be of various denominations and kinds of security in both commercial or non-commercial enterprises. Investments may be in foreign or domestic securities. The multiplicity of investments and the risk involved require that management seek expert advice in the (a) acquisition, (b) handling, and (c) disposal of investments. In this chapter, only the two most common types of investment are described; namely, stocks and bonds, commonly referred to as securities.

Accounting for Investment in Stocks

A purchase of stock is usually negotiated through a stock broker. On the following page is a sample of a broker's advice for the purchase of a stock investment. This advice provides the details necessary to record the purchase. The cost of the investment consists of the number of shares purchased multiplied by the price per share, plus the broker's commission and delivery charge. A separate record of the commission and other charges is not entered on the books of account. These expenses are considered as part of the cost of the stock. The purchase illustrated in the broker's advice is recorded as:

1960 Nov.	28	Investment in stock		7,695.20	
		Cash			7,695.20
		To record the purchase of 100 shares of XYZ Corporation stock @ 76 per share			

The Investment in Stock account is shown on the balance sheet as either a current asset or classified under the non-current heading of "Investments." (An illustrative balance sheet is presented on page 445.) An investment in stock is considered to be a current asset if management intends that it shall be a temporary use of working capital that will be converted into cash during the normal operating cycle of the business. On the other hand, an investment is considered to be a non-current asset on the balance sheet if it is made for a relatively long period of time or for an indefinite period of time. Two fairly common examples of long-term investments are:

1. An investment made for the purpose of achieving control of a subsidiary.
2. An investment in an affiliated company to diversify a product line.

In addition to the problem of classifying stock investments, there is the further problem of valuing the asset on the balance sheet. The following rules are generally accepted by accountants:

JOHN J. ZEEB & CO., INC.

AS AGENT
WE TAKE PLEASURE IN CONFIRMING Purchase for you:

No.	Trade Date	Value Date	Security	Price	Amount	Interest	Tax	Delivery	Other Commissions	Our Commission	Net Amount
	11/28/60	12/2/60	100 XYZ CORPORATION	76	7600.00			2.00	46.60	46.60	7695.20

Allen & Co.
472 Freedom Bank Bldg.
Usia, N.Y.

It is agreed: That all transactions shall be subject to the rules and customs of the Exchange or Market where executed.

Until payment is received by us, these securities are or may be hypothecated or commingled with securities carried for other customers.

The time of execution and the source of the purchase or sale will be furnished on request.

Very truly yours,

JOHN J. ZEEB & CO., INC.

PLEASE KEEP THIS STATEMENT, FOR INCOME TAX PURPOSES

E. & O. E.

JOHN J. ZEEB & CO., INC.

AS AGENT
WE TAKE PLEASURE IN CONFIRMING Sale for you:

No.	Trade Date	Value Date	Security	Price	Amount	Interest	Tax	Delivery	Other Commissions	Our Commission	Net Amount
	2/23/61	3/1/61	100 XYZ CORPORATION	84	8400.00		F 3.36 S 4.00		47.40		8345.24

Allen & Co.
472 Freedom Bank Bldg.
Usia, N.Y.

It is agreed: That all transactions shall be subject to the rules and customs of the Exchange or Market where executed.

Until payment is received by us, these securities are or may be hypothecated or commingled with securities carried for other customers.

The time of execution and the source of the purchase or sale will be furnished on request.

Very truly yours,

JOHN J. ZEEB & CO., INC.

PLEASE KEEP THIS STATEMENT, FOR INCOME TAX PURPOSES

E. & O. E.

1. If the stock is being held temporarily, it may be shown on the balance sheet at cost with a footnote or parenthetical notation setting forth the market value. If the market is substantially below cost, an adjusting entry to reduce the investment to the lower of cost or market should be made as follows:

Decline in stock market value	2,000	
Allowance for decline in stock market value		2,000

The account debited appears in the income statement as an extraneous loss. (The Internal Revenue Code, however, does not permit a deduction for a loss of this nature until the securities are sold.) The account credited appears on the balance sheet as a reduction of the cost of the security in the following manner:

Current Assets:		
Investment in stock (cost)	$7,695.20	
Less: Allowance for decline in market value	2,000.00	$5,695.20

At the beginning of the subsequent accounting period, the foregoing entry is reversed:

Allowance for decline in stock market value	2,000	
Decline in stock market value		2,000

Then if the stock is sold at market value, the entry for the sale is:

Cash	5,695.20	
Decline in stock market value	2,000.00	
Investment in stock		7,695.20

In this connection, the following quotation from *Accounting Research Bulletin Number 43* is pertinent. "In the case of marketable securities where market value is less than cost by a substantial amount and it is evident that the decline in market value is not due to a mere temporary condition, the amount to be included as a current asset should not exceed the market value." [1]

2. If the stock is acquired as a long-term investment, it is presented in the balance sheet at cost, unless it has suffered a substantial and permanent decline in value. If there has been a substantial, permanent decline in value, an entry similar to that in (1) above is then made. In any event, it is important for the accountant to show the market value of the stock at the date of the balance sheet either in parentheses or in a footnote.

[1] Published by the American Institute of Certified Public Accountants, New York, 1953, p. 23.

When a stock is sold, the proceeds consist of the selling price less the broker's commission and Federal and state transfer taxes. (The Federal and state transfer tax is charged only to the seller.) The difference between the proceeds of the sale and the cost is recorded as a debit or a credit to an account, Gain or Loss on Sale of Securities. Some accountants prefer one account in which to record gains and another in which to record losses as mentioned previously in Chapter 18. The gain or loss on the sale of securities is an extraneous loss and is shown on the income statement after the net income on operations has been determined. The entry to record a sale at a gain is:

Cash	8,345.24	
Investment in stock		7,695.20
Gain or loss on sale of securities		650.04
Explanation: To record the sale of 100 sh. XYZ Corp. stock at 84, purchased Nov. 28, 1960, for $7,695.20		

The entry to record a sale at a loss is:

Cash	6,258.93	
Gain or loss on sale of securities	1,436.27	
Investment in stocks		7,695.20
Explanation: To record the sale of 100 shares of XYZ Corporation stock at 64, purchased on Nov. 28, 1960, for $7,695.20		

Accounting for Income Earned on Stock

An investor in stock has the right to receive a dividend legally declared. When a dividend is so declared, three dates are usually announced: the date of the declaration, the date a stockholder is considered a stockholder of record and therefore entitled to receive the dividend, and the date of payment. For example, a dividend is declared November 24, payable January 2 to stockholders of record as at December 31. In this case, the stockholder of record at December 31 should record the dividend as a debit to Dividends Receivable and a credit to Dividends Earned. At December 31, the Dividend Receivable account is treated as a current asset in the balance sheet; and the Dividend Earned account is shown as an extraneous income in the income statement. Because the Internal Revenue Code [2] treats dividends as income to the taxpayer only when received, it is the practice of many companies not to record dividends receivable.

[2] Sec. 301, Internal Revenue Code.

Accounting for Investment in Bonds

As in the case of an investment in a stock, the cost of a bond is the price paid plus all expenses of acquisition. However, the calculation of the cost of a bond is somewhat different from that of a stock. The par or face value of a bond is usually $1,000 but different denominations, such as $500, $100, or $50 may be issued as evidence of the corporation's indebtedness to the owner of the bond. The price at which a bond is quoted is expressed as a percentage of the par value, on the basis of $100. For example, a bond quoted at a price of 105% with a par value of $1,000 has a cost of $1,050; a $500 bond quoted at 105% has a cost of $525; and a $100 bond quoted at 105% has a cost of $105.[3] The Federal and state transfer tax is charged only to the seller of a bond.

Another difference arises when a bond is purchased at a price above the par value (i.e., a premium) or a price below the par value (i.e., a discount). Whether the bond is purchased at par, at a premium, or at a discount, the Investment in Bonds account is debited for the cost. The premium or discount can be recorded in separate accounts, but this practice is not usually followed. However, when a bond is purchased at a premium or at a discount, the premium or discount is usually amortized over the period from the date of purchase to the date of maturity, *if purchased as a long-term investment.* If purchased as a short-term investment, the premium or discount is usually not amortized. (The Internal Revenue Code requires that the *premium* on all tax-exempt bonds be amortized, and allows the taxpayer an election in the case of taxable bonds.) Entries illustrating the amortization of a premium or a discount are illustrated in the following section devoted to the accounting for income.

The rules for the balance sheet presentation of bonds are the same as stock. (See page 428.)

Accounting for Income Earned on Bonds

The procedure in accounting for income earned on bonds depends upon whether: (a) the bonds are bought on an interest due date, (b) the bonds are bought between interest dates, (c) the bonds are bought at a premium or a discount on a short-term basis, or (d) the bonds are bought at a premium or a discount on a long-term basis, and the premium or discount is to be amortized. Each of these cases is illustrated

[3] The percentage sign is not used in referring to the price of a bond, and will therefore be dropped in the following discussion and in the questions and problems.

JOHN J. ZEEB & CO., INC.

AS PRINCIPAL AND FOR OUR ACCOUNT:
WE TAKE PLEASURE IN CONFIRMING Sale to you:

No.	Trade Date	Value Date	Security	Price	Amount	Interest	Tax	Delivery	Other Commissions	Our Commission	Net Amount
	4/20/61	4/24/61	1M GRAY DRUG STORES 5's 1974	110	1100.00	.70					1099.30
					A & O 1	Interest to		4/20/61	from 4/15/61*		
									*the issue date		

Mrs. Elaine W. Hengerer
21 Wolverine St.
Hudson, N.Y.

It is agreed: That all transactions shall be subject to the rules and customs of the Exchange or Market where executed.

Until payment is received by us, these securities are or may be hypothecated or commingled with securities carried for other customers.

The time of execution and the source of the purchase or sale will be furnished on request.

Very truly yours,

JOHN J. ZEEB & CO., INC.

PLEASE KEEP THIS STATEMENT, FOR INCOME TAX PURPOSES

E. & O. E.

JOHN J. ZEEB & CO., INC.

AS PRINCIPAL AND FOR OUR ACCOUNT:
WE TAKE PLEASURE IN CONFIRMING Purchase from you:

No.	Trade Date	Value Date	Security	Price	Amount	Interest	Tax	Delivery	Other Commissions	Our Commission	Net Amount
	8/4/61	8/9/61	1000.00 GRAY DRUG STORES 5's 1974	118 net	1180.00	17.78 A & O	.50 1—Interest		to 8/9/61		1197.28

Mrs. Elaine W. Hengerer
21 Wolverine St.
Hudson, N.Y.

It is agreed: That all transactions shall be subject to the rules and customs of the Exchange or Market where executed.

Until payment is received by us, these securities are or may be hypothecated or commingled with securities carried for other customers.

The time of execution and the source of the purchase or sale will be furnished on request.

Very truly yours,

JOHN J. ZEEB & CO., INC.

PLEASE KEEP THIS STATEMENT, FOR INCOME TAX PURPOSES

E. & O. E.

below (in each case, the books are presumed to be closed as of December 31):

Case (a) A $1,000 bond bearing an annual interest rate of 6%, interest payable January and July 1, is purchased on July 1 at par:

1961			
July 1	Investment in bonds	1,000	
	Cash		1,000
	To record the purchase of a $1,000 bond at par		
1961			
Dec. 31	Accrued interest receivable	30	
	Interest income		30
	To record accrual of interest on $1,000 for 6 months at 6% per annum		
1962			
Jan. 1	Cash	30	
	Accrued interest receivable		30
	To record interest received that was accrued on Dec. 31		
1962			
July 1	Cash	30	
	Interest income		30
	To record interest received and earned on $1,000 bond for 6 months at 6% per annum		

December 31, 1962, January 1, 1963, and July 1, 1963, entries are the same as the foregoing entries with corresponding dates.

Case (b) A $1,000 bond bearing an annual interest rate of 6%, interest payable January 1 and July 1, is purchased on April 1 at par.

1961			
April 1	Investment in bonds	1,000	
	Accrued interest receivable	15	
	Cash		1,015
	To record the purchase of a $1,000 bond, plus accrued interest due the seller for the period January 1 to April 1, a period of 3 months, at 6% per annum		
1961			
July 1	Cash	30	
	Accrued interest receivable		15
	Interest income		15
	To record interest received for 6 months, January 1 to July 1 on $1,000 at 6% per annum, of which $15, has been paid to the seller of the bond		
1961			
Dec. 31	Accrued interest receivable	30	
	Interest income		30
	To record the accrual of interest on $1,000 at 6% per annum for a 6-month period, July 1 to December 31		

1962			
Jan. 1	Cash	30	
	Accrued interest receivable		30
	To record receipt of interest accrued on Dec. 31		

July 1, 1962, December 31, 1962, and January 1, 1963, entries are the same as the foregoing entries with corresponding dates.

Case (*c*) A $1,000, 6% bond is bought for 110 on July 1, interest payable January 1 and July 1. These bonds are purchased as a temporary investment. The premium is not amortized.

1961			
July 1	Investment in bonds	1,100	
	Cash		1,100
	To record the purchase of a $1,000 par value bond at 110		

1961			
Dec. 31	Accrued interest receivable	30	
	Interest income		30
	To record the accrual of interest on $1,000 par value for 6 months at 6% per annum		

During the time the investment is owned, subsequent entries for the accrual and the receipt of interest would be the same as in the preceding illustrations (a) and (b).

Case (*d*) A $1,000, 6% par value bond, due October 1, 1966, is bought at 106½ on May 1, 1961, interest payable April 1 and October 1, at 6% per annum. These bonds are a long-term investment.

1961			
May 1	Investment in bonds	1,065	
	Accrued interest receivable	5	
	Cash		1,070
	To record the purchase of a $1,000, 6% bond at 106½, plus accrued interest at 6% per annum from April 1 to May 1. The premium is to be amortized over a period of 5 years and 5 months remaining from May 1, 1961, to October 1, 1966, or 65 months: The monthly amortization is $1 ($65 premium ÷ 65 months)		

1961			
Oct. 1	Cash	30	
	Accrued interest receivable		5
	Interest income		25
	To record the interest received at 6% per annum on $1,000 par value for 6 months, April 1, 1961, to October 1, 1961		

1961			
Oct. 1	Interest income	5	
	Investment in bonds		5
	To record the amortization of the bond premium from May 1 to October 1, 5 months at $1 per month		

The preceding two entries on October 1 could be combined in one entry as follows:

1961			
Oct. 1	Cash	30	
	Accrued interest receivable		5
	Investment in bonds		5
	Interest income		20

The effect of the payment of a premium of $65 and its amortization at $1 per month is to reduce the effective earnings on the bond from $5 per month ($1,000 × 6% ÷ 12) to $4 per month ($5 interest receivable per month, less $1 monthly amortization of the premium paid.

1961			
Dec. 31	Accrued interest receivable	15	
	Investment in bonds		3
	Interest income		12
	To record the accrual of interest on $1,000 for 3 months at 6% per annum and the amortization of the bond premium for 3 months		
1962			
April 1	Cash	30	
	Accrued interest receivable		15
	Investment in bonds		3
	Interest income		12
	To record the receipt of interest for 6 months; write off the previous accrual of 3 months, and amortize the premium for 3 months, on a $1,000, 6% par value bond		

An alternative to the accounting procedures in the preceding illustration is to reverse on January 1, 1962, the entry of December 31, 1961. The entry on April 1, 1962, would then be:

1962			
April 1	Cash	30	
	Interest income		24
	Investment in bonds		6

Summary The following tabulation summarizes the entries for the purchase of a $1,000, 6% par value bond, purchased on July 1, 1961, at 94. The discount of $60 is amortized over five years, the remaining life of the bond.

Date	Cash Dr.	Accrued Int. Rec. Dr. (Cr.)	Interest Income Cr.	Amortized Discount-Investment Dr.	Investment Balance
7/1/61					$ 940
12/31/61		$30	$ 36	$ 6	946
1/1/62	$ 30	(30)			
7/1/62	30		36	6	952
12/31/62		30	36	6	958
1/1/63	30	(30)			
7/1/63	30		36	6	964
12/31/63		30	36	6	970
1/1/64	30	(30)			
7/1/64	30		36	6	976
12/31/64		30	36	6	982
1/1/65	30	(30)			
7/1/65	30		36	6	988
12/31/65		30	36	6	994
1/1/66	30	(30)			
7/1/66	30		36	6	1,000
	$300		$360	$60	

Coupon and Registered Bonds The interest income in the foregoing illustrations is received either in the form of coupons affixed to the bond when it is purchased, or by a check from the issuing company. The first is a *coupon bond,* and the second a *registered bond.* A coupon bond is a bearer negotiable instrument. Therefore, it should be placed in a safe or bank vault for protection against loss. The coupons should be detached from the bond when they are due for payment; otherwise the holder foregoes the opportunity to use the cash as soon as it is available.

Accounting for Sale of an Investment in Bonds

The procedure to account for the sale of an investment in bonds differs from the sale of an investment in stock in two details. If a bond is sold between interest dates, the seller is entitled to receive accrued interest. If a premium or a discount is being amortized, the gain or loss on the sale of the bond is the difference between the *proceeds* and the *unamortized cost.*

Example. A $1,000, 6% par value bond, due on January 1, 1968, purchased on January 1, 1958, at 106, is sold on March 1, 1961, at 103 and accrued interest. The interest is payable on January 1 and July 1.

The following tabulation summarizes the entries to record the income and amortize the premium between January 1, 1958, and December 31, 1960. (The premium of $60 is amortized from January 1, 1958, to January 1, 1968, a period of 120 months, at $.50 a month.)

Date	Cash Dr.	Accrued Int. Rec. Dr. (Cr.)	Interest Income Cr.	Amortized Premium-Investment Cr.	Investment Balance
1/1/58					$1,060
7/1/58	$30		$27	$3	1,057
12/31/58		$30	27	3	1,054
1/1/59	30	(30)			
7/1/59	30		27	3	1,051
12/31/59		30	27	3	1,048
1/1/60	30	(30)			
7/1/60	30		27	3	1,045
12/31/60		30	27	3	1,042
1/1/61	30	(30)			1,042

Based on the figures in the preceding tabulation, the following entries are made on March 1, 1961, the date of the sale: [4]

1961			
March 1	Accrued interest receivable	10	
	Investment in bonds		1
	Interest income		9
	Explanation: To record the accrual of interest from January 1, 1961 to March 1, 1961, on $1,000 at 6% ($1,000 × 6% × 2/12); and to amortize the premium for 2 months at $.50 per month		
March 1	Cash	1,040	
	Gain or loss on sale of investments	11	
	Accrued interest receivable		10
	Investment in bonds		1,041
	Explanation: To record the sale of a $1,000 par value bond, purchased on January 1, 1958, at 103 and accrued interest for two months		

Subsidiary Investment Record

The subsidiary investment record illustrated on the following page is similar in purpose and procedure to the plant ledger and the perpetual inventory card (illustrated and described in Chapters 17 and 19). A record of this kind is recommended when a company, or an individual, has a portfolio of several stocks and bonds in different companies. One card or sheet is made out for each investment. The total of the balances of the cards must agree with the Investment control account in the general ledger. Many companies also keep a record of the dividends

[4] The amount of *taxable* gain or loss on the sale of bonds purchased at a discount may be different from the *recorded* gain or loss when reporting gains or losses on the Federal Income tax return. The Internal Revenue Code and the Regulations of the Internal Revenue Service should be consulted in this connection.

INVESTMENT RECORD

Name of Issuing Company XYZ Corporation

Name of Stock Broker John J. Zeeb & Co., Inc.

Serial Number A-12345

STOCK [X] BOND [ ]

None — Redemption Value

$100 — Par Value

as declared — Dividend or Interest Rate

None — Date of Maturity

Purchase				Sale				Balance			Loss	Gain
Date	Qty.	Price	Amount	Date	Qty.	Price	Amount	Qty.	Price	Amount	Amount	Amount
1960 11/28	100	76	7695 20					100	76	7695 20		
				1961 2/23	100	84	8345 24	-0-		-0-		650 04

(FRONT)

INVESTMENT RECORD

Name of Issuing Company_____

Par Value_____

INTEREST—DIVIDEND RATE_____

STOCK ☐ BOND ☐

Income Received

Date	Amount	Date	Amount	Date	Amount	Date	Amount

(BACK)

or interest received on the reverse side of the form. This record greatly facilitates the preparation of Federal and state income tax and personal property tax returns that require a listing of income received on investments. In addition, the Federal income tax return and many state income tax returns require a detailed schedule of gains and losses on the sale of investments. When an investment is sold, the gain or the loss is recorded on the form in the last column.

INTANGIBLE ASSETS

Nature and Classification of Intangible Assets

Intangible assets are fundamentally the same as fixed assets. They are assets that: (a) are relatively permanent, non-current assets, (b) are used in the operations of a business, and (c) are not for sale in the normal course of operations.

The accounting principles set forth in Chapter 18 apply to intangible assets in virtually the same way as they apply to fixed assets. That is to say, intangible assets should be recorded at cost and amortized over their useful lives, in order to achieve a proper matching of revenues and expenses. In the past, these principles have not always been followed, particularly when applied to intangible assets. Because of the intangible nature of the assets and the doubt that may exist as to their extended usefulness, many companies have charged intangible assets to expense or retained earnings at the time they are acquired. Other companies have arbitrarily written their intangible assets down to a nominal value, and carry them at a nominal value in the balance sheet. Quite often these assets still have considerable value. Therefore, to write them off without regard to their future usefulness as revenue-producing assets is to understate retained earnings, as well as the assets.

Intangible assets may be classified into two groups:

1. Those intangible assets that confer an exclusive right to manufacture or market a product, or render a service for a definite although relatively long period of time. Examples are patents, licensing agreements, copyrights, agreements not to compete, leases and leaseholds, to name the most common ones. Intangible assets in this group are a result of contractual relationships or are conferred upon the owner by law. Either the contract or the law restricts the use of the privilege or the right to a definite period of time. Consequently, the cost of the assets in this group are amortized over the contractual or legal period imposed. However, whether the cost of this group of intangible assets, or the second group, is carried for an extended time as assets depends upon whether they are still providing economic benefits to the enterprise. If an intangible asset

ceases to render economic benefits, it may be written off over a shorter period of time than was originally imposed.

2. Intangible assets in this group do not have a definite term of existence. Assets in this group are presumed to confer economic benefits for an indefinite period. Hence they are not amortized. However, if conditions arise that indicate that an asset has a limited existence, for example, because of the legal condemnation of a desirable location, the asset should then be amortized over a reasonable period of time as determined by the management.

"Such amortization is within the discretion of the company and is not to be regarded as obligatory. The plan of amortization should be reasonable; it should be based on all the surrounding circumstances, including the basic nature of the intangible and the expenditures currently being made for development, experimentation, and sales promotion. Where the intangible is an important income-producing factor and is currently being maintained by advertising or otherwise, the period of amortization should be formally approved and the reason for amortization, the rate used, and the shareholders' or directors' approval thereof should be disclosed in the financial statements." [5]

Some examples of intangible assets that may be capitalized indefinitely are: goodwill, trademarks, secret processes not patented, trade names, and others.

Initial Valuation of Intangible Fixed Assets

The initial valuation of an intangible fixed asset follows the general rule applied to all assets, namely, that the cost agreed upon between the contracting parties in an arm's-length transaction is the best measurement of the initial valuation. Where intangible fixed assets are acquired through an exchange of assets other than cash, and particularly by the issuance of capital stock, the fair market value of the securities is the basis of valuation. If the capital stock has no readily determinable market value, as in the case of a closely held stock ownership, an expert appraisal is the preferred basis of valuation under these circumstances.

Amortization of Intangible Fixed Assets

The most common method used to amortize intangible fixed assets is the straight-line method. In applying this method, the cost of the asset is divided by: (a) the contractual life of the asset, (b) the legal life of the asset, or (c) a shorter life, if management has determined that it better

[5] Page 39, *Accounting Research Bulletin Number 43, op. cit.*

reflects the earning power of the asset. Periodical adjusting entries are made, debiting an amortization expense account (for each specific asset) and crediting either the asset account or an allowance for amortization account. A credit to an allowance for amortization account is recommended. In the following paragraphs, the amortization of some of the more common intangible fixed assets is explained.

Patents Upon proper application, the United States Patent Office grants "letters patent" for a period of 17 years. The patent is not renewable. The amortizable value of a patent may be the cost, if acquired through purchase, or capitalized expenses incurred in experimentation and development, legal fees, engineering costs of preparing drawings and models, and legal expense in prosecuting a patent infringement suit. It is a common practice to charge research and development expenses to current operations rather than to capitalize them.

Licensing Agreements The possession of a license to serve as a distributor for a manufacturer's products may be the most valuable asset possessed by the dealer. Generally, however, whatever expense is involved in securing the license, such as legal fees, is charged to current expense when incurred, unless a sizeable amount is involved. Consequently, there is usually no asset amount to amortize.

Copyrights The granting of a copyright is the exclusive privilege of the Federal government. The right to reproduce, publish, and sell a literary work is granted for a period of 28 years with the privilege of renewal for another 28 years, upon application. The cost of a copyright consists of duplicating the manuscript or work of art and preparing it for sale. Frequently, because of the inability to estimate the sales and the period of demand, the cost of the copyright is charged as an expense to the first edition.

Organization Expense The expense involved in organizing a corporation should be capitalized. Some of these expenses are: legal fees, payments for printing and underwriting the sale of stock certificates, incorporation fees, and taxes. Authorities differ as to whether these expenses should be amortized. Some accountants consider organization expense as a permanent intangible asset. Other accountants recommend that the organization expense be capitalized but amortized over a relatively short period of time. Many corporations, as a practical matter, amortize organization expenses over a period of five years as permitted by the Internal Revenue Code.

Goodwill

Goodwill is an intangible asset compounded from a variety of successful business ingredients—competent and energetic management, customer

acceptance, a favorable location, a quality and profitable product, efficient production methods, an outstanding reputation, plus the expectation that these ingredients will continue to produce an above-normal rate of return for an indefinite period of time.

As an asset, goodwill should be recorded only when it is paid for.

Even though management believes and has evidence to prove that its earnings are above normal in its industry, goodwill should not be recorded until a buyer, in an arm's-length transaction, pays more for a business than is evidenced by the book value of its assets. Even this difference may not be attributed to and recorded as goodwill, because the buyer may be purchasing the assets at their market values instead of their book values. How then should goodwill be valued? Even though in practice many agreements to sell business enterprises or professional interests in partnerships spell out goodwill as so many dollars in excess of the book value of the assets, or so many years' purchase of the previous year's net operating income, *goodwill should properly be considered as the capitalized net value of excess operating income.* Goodwill should be based not upon the total of prior years' profits but upon the amount of net operating income *that is in excess of what is considered to be normal in an industry.*

Another consideration is the *rate* at which the goodwill is to be capitalized. The rate agreed upon between the buyer and the seller indicates the length of time the buyer and the seller have determined that the condition of the above-normal net operating income will continue. This is what the buyer should be paying for, rather than agree to a lump sum payment for a business without any attempt to find out if goodwill exists according to the criteria set forth above.

An example of the foregoing concepts is illustrated by the proposed purchase of a business that has a total owners' equity of $50,000. The buyer and seller should first agree upon the value of the assets being purchased. The cost of the assets, or their unamortized or undepreciated book values, should be revalued in the light of current economic conditions. For instance, it may cost more or less to replace the same assets at the present market than at the time they were purchased. Assuming that the $50,000 represents the present value of the assets minus the liabilities, the buyer and the seller should next review the previous years' operations, possibly as far back as ten years, to determine a yearly average net operating income. $5,000 is assumed in this example. Extraneous, non-recurring gains and losses should be omitted to reflect only the operating income. The industry-wide average rate of net operating income for the same period may be used as a basis for comparison. In this example, 6% is assumed. If the company is earning over 6% on the present owner's equity, for example, there is an indication that the company is earning an above-normal net operating income. This

figure is divided by a rate that the buyer and seller agree should be earned in the future. Here, 5% is assumed. The result is Goodwill.

Average annual net operating income	$ 5,000
Normal return (6% × $50,000)	3,000
Excess	$ 2,000
Rate of capitalization agreed upon	5%
Goodwill ($2,000 ÷ 5%) equals	$40,000

Amortization of Goodwill If the earnings of a company purchased at a price to include goodwill continue at the above-average rate, goodwill may not be amortized. However, because the buyer and the seller either explicitly or implicitly set a time limit by choosing a rate of capitalization, many accountants recommend that goodwill be amortized over a reasonable period of time. In this connection, governmental agencies follow different policies. The Securities and Exchange Commission approves periodical amortization of goodwill; the Internal Revenue Service has opposed the amortization of goodwill. The accountant should amortize goodwill when he has evidence to prove that the conditions under which goodwill was determined have changed. He should then recommend a policy of amortization to the management.

DEFERRED CHARGES

Nature and Classification of Deferred Charges

Deferred charges are long-term prepayments or expenditures chargeable as costs of future operations.[6] In a very broad sense, almost all assets are deferred charges to future operations through the depreciation or amortization of their costs. As explained in Chapter 15, prepaid expenses are a class of deferred charge, i.e., expenditures for unconsumed goods or services that are deferred to the following fiscal year when it is expected that they will be consumed. Prepaid expenses are current assets. Deferred charges differ from prepaid expenses in that they are expected to benefit several fiscal years. Deferred charges, therefore, are classified as non-current assets on the balance sheet. Usually found on the balance sheet under a Deferred Charge classification are: plant rearrangement costs, bond discount, and development and experimental costs (when capitalized). An alternative treatment of bond discount is explained on page 482.

[6] Kohler, Eric L., *A Dictionary for Accountants*, 1st ed., Prentice-Hall, Inc., 1952, pp. 139–140.

BALANCE SHEET PRESENTATION OF ASSETS

Some of the assets discussed in this chapter and preceding chapters are brought together in the balance sheet illustrated below. The balance sheet items illustrated show a different arrangement from the style of balance sheet illustrated in Chapter 11. The current liabilities are deducted from the current assets to emphasize the working capital, and the fixed assets and intangible assets are set forth as a tabulation.

ASSET SIDE OF THE BALANCE SHEET ILLUSTRATED

Current Assets:			
Cash on hand and in banks		$ 25,000	
Short-term investments, at cost (market value $16,000)		15,000	
Notes and accounts receivable:			
Trade customers	$120,500		
Less: Allowance for doubtful accounts	8,000	112,500	
Accrued interest receivable		150	
Inventories (first-in, first-out cost)		200,000	
Prepaid insurance premiums		5,000	
Advances to salesmen		4,000	
Total Current Assets			$361,650
Less: Current Liabilities (details omitted)			150,000
Working Capital			$211,650
Long-Term Investments:			
Deposits with utilities		$ 1,200	
Investment in the stock of the XYZ Co., at cost (market value $9,500)		10,000	11,200

Fixed Assets:

	Cost	Allowance for Depreciation	Book Value	
Land	$ 12,000		$ 12,000	
Building	75,000	$ 30,000	45,000	
Machinery and equipment	45,000	15,000	30,000	
Office equipment	20,000	5,000	15,000	
Automotive equipment	8,000	4,000	4,000	
Totals	$160,000	$ 54,000	$106,000	106,000

Intangible Assets:

	Cost	Allowance for Amortization	Book Value	
Patents	$ 25,000	$ 15,000	$ 10,000	
Organization expense	3,000	1,200	1,800	
Goodwill	18,000		18,000	
Totals	$ 46,000	$ 16,200	$ 29,800	29,800

Deferred Charges:	
Unamortized bond discount on bonds payable	4,350
Total Assets less Current Liabilities	$363,000

QUESTIONS

1. (a) For what reasons do companies invest their funds in outside business ventures? (b) Is it not more profitable for a concern to invest its funds in its own operations?
2. Cite a few examples of investments.
3. A company purchased 100 shares of Kenn Co. stock at 80½ per share. The broker charged ½ of 1% commission and a delivery charge of $3. At what amount should the Investment account be debited?
4. What rules do accountants follow in classifying investments on the balance sheet?
5. What provision should the accountant make on the balance sheet for differences between the cost of an investment in stocks and bonds and the present market value?
6. The stock purchase referred to in Question 3 is sold at 95. The broker charged a commission of ½ of 1% and a Federal tax of $4 and a state tax of $5. How much did the company receive on the sale? Give the journal entry to record the sale.
7. What is the Federal income tax rule with regard to the accounting for cash dividends on investments in stocks?
8. Under what conditions is the premium or discount amortized on a bond purchased as an investment?
9. A $1,000 par value bond bearing an annual rate of interest of 3%, interest payable on March 1 and September 1, is purchased on July 1 at par value. A commission of ½ of 1% is paid the broker. What is the entry for the purchase? (Compute interest on a monthly basis, assuming 30 days to the month.)
10. Referring to the bond purchase in Question 9, what entries are made on September 1 and December 31, assuming that the company closes its books on December 31?
11. What is meant by the term "amortization"?
12. Ten bonds with a par value of $500 each are purchased at 87½. What is the total purchase price?
13. What is the definition of an intangible fixed asset?
14. Describe the characteristics of the two classes of intangible fixed assets.
15. Over how long a period are the following amortized?
    (a) Patents.
    (b) Copyrights.
    (c) Leaseholds.
    (d) Leasehold improvements.
    (e) Goodwill.
16. How should goodwill be valued?
17. What is the nature of a deferred charge? How does a deferred charge differ from a prepaid expense?

PROBLEMS

Problem 19-1

The Hi-Finance Co. made the following investments:

February 1: Purchased a 6% note due in one year from Feb. 1 from the Waranteed Auto Agency, having a face value of $3,000, less a discount of 5%.

March 1: Purchased 100 shares of M-J corporation stock at 131½; the broker's commission and other charges amounted to $100.

April 1: Purchased $10,000 par value of Excelsion Co. bonds at 102¼ plus accrued interest. The broker's commission and other charges amounted to $85. These bonds pay 5% interest on January 1 and July 1.

June 30: Received a dividend on the M-J corporation stock of $.50 per share.

July 1: Sold the M-J corporation stock at 136. The broker's commission and taxes amounted to $115.

August 1: Sold the Excelsion Co. bonds at 102 plus accrued interest. The broker's commission and taxes amounted to $95.

Required:

(A) Journalize the above transactions, showing complete details in the explanations to the entries.

(B) Post the M-J corporation entries to the investment record in the workbook.

Problem 19-2

On August 1, the Electronic Co. purchased all of the outstanding capital stock and bonds payable of the Pro-Tran Co. for the following amounts:

10,000 shares of common stock for	$105,000
$50,000—6% bonds, due in 10 years, interest payable, August 1 and February 1 for	$ 56,000

Required:

(A) Record purchase of the stock and bonds on August 1.

(B) Record the accrued interest earned and the amortization of the premium on December 31.

(C) Prepare a partial balance sheet as of December 31, showing the results of the foregoing transactions as of December 31. The stock has a market value of $10.20 per share and the bonds a market value of 112.

Problem 19-3

Ticonderoga Shares Inc., has been holding an investment in the 4% bonds of the Ateles Co., having a par value of $75,000. The bonds were purchased on January 1, 1958, at 95. This discount is being amortized over a period of five years. Interest is payable January 1 and July 1.

Required:

(A) Prepare a table showing the amortization of the discount, and interest earned from January 1, 1958, to December 31, 1961.

(B) Prepare a journal entry recording the redemption of the bonds on January 1, 1962, at par value plus accrued interest.

Problem 19-4

From the following post closing trial balance of the Arm-Strong Co. Inc., as of December 31, 1962, prepare a classified balance sheet, classifying the assets in the manner illustrated on page 445 of the text.

Cash	100,000	
Notes receivable—Trade	125,000	
Accounts receivable—Trade	675,000	
Allowance for doubtful accounts		50,000
Inventory (at Fifo cost)	800,000	
Investment in stock (note 1)	125,000	
Organization expense, unamortized	10,000	
Prepaid insurance	7,500	
Prepaid interest expense	1,500	
Prepaid advertising (note 2)	20,000	
Cash surrender value of life insurance policy	10,000	
Land	300,000	
Buildings	900,000	
Allowance for depreciation on buildings		200,000
Equipment	300,000	
Allowance for depreciation on equipment		150,000
Automotive equipment	15,000	
Allowance for depreciation on automotive equipment		9,000
Goodwill	50,000	
Patents	17,000	
Allowance for amortization of patents		7,000
Current liabilities (details omitted)		900,000
Capital stock		1,800,000
Retained earnings		340,000
	3,456,000	3,456,000

Note 1:

Investment in stocks consists of:	Cost	Market
Short-term investments in stock of Ex-cel Co.	$ 75,000	$ 80,000
Long-term investments—Strong Subsidiary Co.	50,000	25,000
	$125,000	$105,000

Note 2:

Prepaid advertising consists of a five-year contract for a series of radio commercials $20,000

Problem 19-5

Mr. Ace, the owner of a wholesale business, is negotiating with Mr. Deuce for the sale of his business. The following is a summary balance sheet prepared at the proposed date of purchase:

Assets	$100,000	Liabilities	$ 25,000
		Owners' equity	75,000
	$100,000		$100,000

In addition to the sale of the physical assets at book value, Mr. Ace is asking for a payment for goodwill equal to five-years' purchase of the excess by which

the average net income for the past five years exceeds 10% of the average invested capital.

Years	Net Operating Income	Invested Capital
1	$4,300	$40,000
2	5,000	45,000
3	6,000	60,000
4	8,000	70,000
5	9,000	75,000

Required:

(A) Compute the amount Mr. Ace is asking for his business.

(B) Prepare journal entries to record the sale of the business to Mr. Deuce, on the books of Mr. Ace.

SUPPLEMENTARY PROBLEMS

Problem 19-6

On July 1, the Sunrise Company made the following investments:

100 shares of A.R. and T. Co. stock @ $145.

$5,000 par value, 5% A.R. and T. bonds @ 115, interest payable July 1 and January 1.

On October 1, the A.R. and T. Co. split their stock two shares for one share. On November 1, the Sunrise Co. sold 100 shares of A.R. and T. stock @ $105.

Required:

(A) Record all transactions that transpired between July 1 and December 31.

(B) Show the foregoing investments as they appear on the balance sheet of December 31. The market price of the stock is $108; the market price of the bonds is $114.

(Form 3)

Problem 19-7

On July 1, 1961, the Shafer Co. purchased outstanding capital stock of the Tumkin Co., consisting of 500 shares of stock for $32,000. During the course of the year, the Shafer Co. loaned the Tumkin Co. $15,000 so that it could meet its obligations. By June 30, 1962, the end of the fiscal year of both companies, the financial condition of the Tumkin Co. was such that it was insolvent.

Required:

(A) Record the transactions involving the purchase and the sale of the stock and the loan as they would be made on the books of both the Shafer Co. and the Tumkin Co.

(B) Show how the transactions should appear on the balance sheet of the Shafer Co. as of June 30, 1962.

(C) Are any adjusting entries required as of June 30, 1962, with respect to these transactions?

(Forms 3, 8)

20

Current Liabilities

Nature and Classification of Liabilities

A liability in the legal sense is an obligation or a debt arising out of a contractual relationship, or imposed by governmental or judicial authority. In accounting, in addition to being used in the legal sense, the concept of liabilities may be extended in meaning to include those credit balances that comprise the owners' equity.[1] However, the owners' equity accounts are not obligations arising out of a debtor or creditor relationship. They are liabilities only insofar as management owes an obligation to the owners of an enterprise to administer their investment prudently and account for it honestly and regularly.

It follows from the foregoing introduction that liabilities may be classified into three categories:

1. Current Liabilities (discussed in this chapter).
2. Long-Term Liabilities (Chapter 21).
3. Owners' Equity (Chapters 22 and 23).

Nature and Classification of Current Liabilities

A current liability is a currently maturing obligation, usually due within the current operating cycle or within the succeeding twelve-month period, whichever is the longer time, and payable out of current assets or transferrable to current income of the next period. If an enterprise maintains its accounts on a strict accrual basis, it is unlikely that a recurring liability of any significance will be overlooked and not recorded. How-

[1] *Accounting Terminology Bulletin Number 1 Review and Résumé,* published by the American Institute of Certified Public Accountants, New York, 1953, p. 14.

ever, the possibility of the omission of unusual, or non-recurring liabilities should be carefully considered by the accountant before he closes the books and prepares financial statements.

Current liabilities, like most obligations, are usually fixed amounts and do not present the problems of valuation encountered in recording assets. The valuation of a current liability becomes a problem only when the amount must be estimated. There are situations in which the nature of the liability or its amount may be contingent upon an event that may occur after the date of the balance sheet. For example, a concern may have lost a law suit, but the amount of the damages has not been determined as of the date of the submission of the financial statements. Another example is that of a debt that has already been recorded, but is in dispute. In cases of this sort, the accountant must be careful to exercise judgment in stating the circumstances surrounding each contingent or disputed liability and make adequate provision on the books and financial statements.

Within the current liability category, the order of listing the various obligations is not as well defined as the order of listing the current assets. In Chapter 11, reference is made (p. 227) to the lack of uniformity in the listing of current liabilities on the balance sheet. The following order is suggested.[2] Some of these liabilities have already been described in detail in other chapters, e.g., notes and drafts payable in Chapter 7; vouchers payable in Chapter 14. Hence, they will be referred to only briefly in this chapter.

1. Payables, arising out of trade obligations and short-term borrowings.
2. Accruals of incurred expenses.
3. Dividends payable.
4. Deposits.
5. Income received in advance.
6. Taxes or other amounts withheld, or amounts received in trust and held in a fiduciary capacity.
7. Other current liabilities.

Current liabilities are arranged differently from the above order when set forth in a balance sheet of an insolvent concern. In this case, the liabilities are usually required by the bankruptcy court to be listed in the order of priority of payment. One rule that should be observed, regardless of the order of listing of the liabilities of a going concern, is that they should not be offset against related assets. One exception followed by some accountants is the offsetting of the liability for Federal income taxes by U.S. Treasury notes. Many companies invest in U.S. Treasury notes for the purpose of using them to pay their income taxes.

[2] *Accountants' Handbook, 4th ed.*, edited by Rufus Wixon, The Ronald Press Company, New York, 1956, pp. 20–3.

Payables In listing the obligations due under this classification, it is important that a distinction be made between trade and non-trade obligations. Accounts, vouchers payable, and notes payable due trade creditors are examples of trade obligations. Notes payable to banks and other lending agencies, and loans from corporate officers, stockholders, partners, and employees are examples of non-trade obligations. Each class of obligation should be listed separately on the balance sheet, and clearly titled.

Accruals Included in this classification are liabilities for expenses incurred but not yet due or paid as of the date of the end of the fiscal year for wages, commissions, interest, property, payroll and sales taxes, royalties, and other services received. Entries to record accruals are described and illustrated in Chapter 8. Payroll taxes are discussed in this chapter beginning with the section, "Tax Withholding."

Dividends Payable The determination of the amount, time of payment, and other matters pertaining to the declaration of a dividend is one of the rights of the board of directors of a corporation. Once declared, a cash dividend is a current liability of the corporation. A dividend declared payable out of a corporation's unissued capital stock is not a liability, but a notation should be made in the stockholders' equity section of the balance sheet of the number of shares to be issued. The accounting for dividends is discussed in Chapter 23.

Deposits Deposits received to guarantee the performance of a contract by a building contractor, or deposits received to guarantee the return of containers are two examples of current liabilities that obligate the debtor to make a repayment, rather than render a service. However, if there is a default on the part of the depositor, the deposit is converted into a revenue account by a debit to the deposit liability account and a credit to a revenue account, for example, "Forfeited Deposits," or "Sale of Containers."

Income Received in Advance When revenue is received in advance, cash or a receivable account is debited, and a deferred revenue account is credited. Deferred revenue accounts are also referred to as Prepaid Revenue and Deferred Credits. Revenue received in advance is an obligation to render a future service. When the service has been performed, the deferred revenue is transferred (by an adjusting entry) to an earned revenue account. Adjusting entries accounting for revenue received in advance are described in detail in Chapter 9. The underlying principles are explained in Chapter 15.

A further point to be considered here is the classification of the deferred revenue accounts on the balance sheet. In most cases, deferred revenues are current liabilities. Usually, the revenue received in advance is earned in the succeeding fiscal year. In some cases, however, revenue received in advance may not be earned until more than one fiscal year has passed. These are *long-term revenues received in advance* and are shown on the

balance sheet under a non-current classification, between the current liabilities and the long-term liabilities. An example is the receipt by a landlord on January 1 of $12,000 for a five-year lease. Cash is debited and Prepaid Rental Income is credited for the $12,000. On December 31, each year, an adjusting entry is made, debiting the Prepaid Rental Income account and crediting Rental Income for $2,400, i.e., $12,000 divided by five years. At the end of the first year, for example, the balance of the Prepaid Rental Income account, $9,600, should appear on the balance sheet in the following manner:

Current Liabilities:		
Prepaid rental income		$2,400
Deferred Credits:		
Prepaid rental income received on a 5-year lease, of which there are 4 years remaining	$9,600	
Less: Prepaid rental income to be earned in 19— (see above under Current Liabilities)	2,400	7,200

Tax Withholding *The Federal Insurance Contributions Act of 1939* (FICA), which superseded Title VIII of the *Social Security Act of 1935*, and the *Current Tax Payment Act* of 1943, requires that employers withhold social security (FICA) and income taxes from their employees' wages. It is not the purpose of this book to examine and discuss all the features of social security legislation. Rather, attention is directed to the accounting transactions and reports required of employers, and the effect that these requirements have upon the balance sheet and the income statement.

Employees' FICA Contributions Upon employment of one or more employees in a covered employment, an employer becomes liable for the withholding of FICA taxes from each of his employee's wages to the extent of 3% of $4,800 yearly, or a total maximum tax withholding of $144 per employee per year. This is the rate and the maximum taxable wage requirement in effect during the calendar year 1961.[3]

Employees' Income Tax Withholding In addition to the withholding of the FICA contribution from each employee, an employer is required to withhold income taxes. The amount of income tax to be withheld is determined by the amount of the wage or salary payment and the number of exemptions claimed by the employee. The Federal Government has provided tables of taxes to be withheld on the basis of weekly, biweekly, semi-monthly, and daily payrolls. At the time of his employment, the employee must complete a Form W-4, "Employees Withholding Exemption Certificate," for each employer by whom he is employed. The employee's social security identification number and the number of dependencies claimed are noted on the form.

Employers' Payroll Tax Reports An employer who is required to with-

[3] Present legislation has established a rate of 3⅛% for 1962 and 3⅝% for the years 1963 through 1965.

hold FICA and income taxes from his employees' wages is required to file the following reports with the Federal Government:

1. *Form 941—Employers' Quarterly Federal Tax Return.* This report must be filed by the end of the month following the end of each calendar quarter, i.e., by April 30, July 31, October 31, and January 31. The employer reports the amount of taxable wages paid (i.e., up to $4,800 per employee during a calendar year) and remits the FICA and income taxes withheld. *In addition,* the employer pays a FICA *payroll excise* tax on the taxable wages paid. The excise tax is the same rate as the FICA tax withheld on a maximum of $4,800 wages paid.

2. *Form 940—Employers Annual Federal Unemployment Tax Return.* By January 31, of each year, an employer must file a report setting forth the taxable wages paid *up to $3,000* for each employee during the preceding calendar year. The tax payable is 3.1% for 1961.[4] In prior years, the tax rate was 3%. Against the 3.1% tax, the employer is allowed a credit of 90% of 3% paid to a state unemployment insurance fund. For example, an employer has five employees during 1961, to whom he has paid $5,000 each. Only $3,000 per employee, or a total of $15,000, constitutes taxable wages. The tax due the Federal Government is $465 ($15,000 × 3.1%). A credit is allowed against this tax not to exceed 90% of the Federal tax computed at 3%, or a credit of $405 ($15,000 × 3% × 90%). The tax to be paid is $60 ($465 − 405).

In addition to the unemployment insurance payable annually to the Federal Government, an unemployment insurance tax is required by the states. Most states require quarterly reports and tax payments. The tax rate varies, but in most states the maximum rate is 2.7%. The tax is levied upon the employer. However, a few states require the employee to contribute to the unemployment insurance by tax withholding, in addition to the employer's tax.

Overtime Premium Pay

The Fair Labor Standards Act of 1938 presently requires employers (with some exceptions) engaged in interstate commerce or in the production of goods for interstate commerce to pay a rate of time-and-a-half to employees who work over 40 hours in a calendar week. The Act also provides for the payment of a minimum wage. Union and employer-employee agreements may provide for a payment of time-and-a-half for hours worked in excess of eight hours a day, and double-time for work performed on a Sunday or a holiday. In addition, most employers pay their employees for as many as seven legal holidays; and one, two, and

[4] The rate of tax under the Federal Unemployment Tax Act on wages paid during the calendar years 1962 and 1963 is 3.5%.

sometimes three weeks' vacation depending upon the length of employment. The following is an illustration of the calculation of the gross wage and overtime premium for an employee who worked 48 hours and is paid $3 per hour:

Total hours worked	48
Regular pay (48 hours × $3)	$144.00
Overtime premium (8 hours × $1.50)	12.00
Gross wage	$156.00

Payroll Records Required

Payroll tax legislation does not prescribe a specific form of record to be kept by the employer. The only reference to record keeping is that the employer must keep an accurate record of wage payments and deductions for each employee. These payroll records and reports must be kept on file by the employer for a period of four years following the date the taxes fall due or are paid, whichever date comes later. Two payroll records that will satisfy most requirements are described in the next two sections.

The Payroll Journal The payroll journal illustration facing page 460 is designed primarily for a weekly payroll. It can be used, however, for a semi-monthly or monthly payroll. All the basic information necessary to provide a record of the wage payments to each employee is to be found on this form:

1. The employees' names and clock card numbers.
2. The hours worked each day; the total hours for the week and the hours worked overtime.
3. The employees' rates of pay.
4. The employees' gross earnings (i.e., the hours worked × the rate of pay); and the employees' earnings subdivided as to: (a) Regular earnings (total hours worked × the rate of pay) and (b) Overtime earnings (hours over 40 hours a week × ½ the rate of pay).
5. The itemized and total deductions from each employee's wages.
6. The net pay (i.e., the gross earnings − the total deductions).
7. The payroll check number.

While the payroll journal illustrated is a manually posted record, basically the same information is to be found on a payroll journal produced by a bookkeeping machine or an electronic computer.

Employee's Earnings Record Card After each pay period, the details concerning each employee's earnings are posted to an employee's earnings record, as illustrated on page 456. One of these records is prepared each year for each employee. In addition to the personal information shown at the top of the form, space is provided for a record of each payment

EMPLOYEE'S EARNINGS RECORD CARD

Name W. Long Position President Year 19—
Social Security No. 00–00–000
Date Employed Jan. 2, 19— Department Executive Exemptions 2
Pay rates 100 wk. 200 wk. 300 wk. Date of Birth April 17, 19—

Date Pay	Total Hours	Regular Hours	O.T. Hours	Gross Pay	FICA	Inc. Tax With.	Other Deductions	Total Deduct.	Net Pay	Ck. No.
					First Quarter					
1				300.00	9.00	50.00		59.00	241.00	
2				300.00	9.00	50.00		59.00	241.00	
3				300.00	9.00	50.00		59.00	241.00	
4				300.00	9.00	50.00		59.00	241.00	
5				300.00	9.00	50.00		59.00	241.00	
6				300.00	9.00	50.00		59.00	241.00	
7				300.00	9.00	50.00		59.00	241.00	
8				300.00	9.00	50.00		59.00	241.00	
9				300.00	9.00	50.00		59.00	241.00	
10				300.00	9.00	50.00		59.00	241.00	
11				300.00	9.00	50.00		59.00	241.00	
12				300.00	9.00	50.00		59.00	241.00	
13				300.00	9.00	50.00		59.00	241.00	
Totals Quarter				3900.00	117.00	650.00		767.00	3133.00	

EMPLOYEE'S EARNINGS RECORD CARD (CONT.)

Date Pay	Total Hours	Regular Hours	O.T. Hours	Gross Pay	FICA	Inc. Tax With.	Other Deductions		Total Deduct.	Net Pay	Ck. No.
					Second	Quarter					
1				300.00	9.00	50.00			59.00	241.00	
2				300.00	9.00	50.00			59.00	241.00	
3				300.00	9.00	50.00			59.00	241.00	
4 5/3				300.00	–0–	50.00			50.00	250.00	459
5					*144.00*						
6											
7											
8											
9											
10											
11											
12											
13											
Totals Quarter											
Totals Six Months											

made to an employee for each of the four quarters of the year. The first two quarters of a year are shown on the form below; the third and fourth quarters would appear on the reverse side of the form. The quarterly payroll tax reports required by the Federal Government (Form 941 described above) and the various states can be conveniently prepared from this type of record. The wages of W. Long are shown in the illustration. It will be noted that Mr. Long has received $3,900 in FICA taxable wages in the first quarter and $900 in the second quarter up to May 3, the date of the payroll illustrated. As this totals $4,800, the maximum wage subject to FICA tax, no further deduction is made for FICA taxes during the remainder of the year.

Accounting for Accrued Payroll and Payroll Tax Liabilities

There are many different procedures followed in accounting for the accrual and payment of the payroll and payroll taxes. Practices differ with respect to the gathering of the basic information from which the payroll is figured. Some companies require all of their employees to record their attendance (arrival, departure, and lunch time) on clock cards located at the employees' entrance to the store, factory, or office. The clock card is taken from a rack by the employee when he reports for work and inserted into a mechanism connected to a clock. The card is automatically stamped with the time. The employee then replaces the card in the rack. The same procedure is followed when the employee leaves his work, either for lunch, or at the end of the workday.

At the end of a payroll period, for example a week, the clock cards are collected by a timekeeper who figures the elapsed time for each day and the total time for the week on each card. Some companies, instead of using a mechanized clock card, require their employees to sign a daily time sheet. However, whatever method is used in time recording, it should be done efficiently, particularly if the employee is subject to governmental wages and hours restrictions. The details of the hours worked by each employee are posted either daily or weekly to the payroll journal from the clock card or time sheets. In the payroll journal illustrated on pages 456–7, the hours worked by the salesclerks are taken from clock cards.

At the end of the payroll period, four distinctive types of entries are made from the payroll journal:

1. An entry to transfer sufficient cash from the regular bank account into a special payroll bank account to cover the total *net* payment to the employees. As explained in Chapter 16, many companies find it more convenient to pay their employees' wages from a special bank account using a separate check number series and differently colored checks than to pay them from their regular bank account. The monthly bank rec-

onciliation is usually facilitated if two bank accounts are used. The entry is:

Payroll bank account	xxxx	
Regular bank account		xxxx

2. An entry to record the liability for the gross wages for the payroll period with an offsetting debit to a wage or salary expense account. More than one expense account may be debited if the salaries are to be classified:

Sales salaries	xxxx	
Officers salaries	xxxx	
Office salaries	xxxx	
Accrued payroll		xxxx

3. An entry to record the payment of the payroll and the accrual of the payroll deductions for taxes withheld from the employees' wages, and other deductions such as insurance premiums, union dues, and savings bonds.

Accrued Payroll	xxxx	
FICA tax withheld		xxxx
Federal income tax withheld		xxxx
Life insurance premiums payable		xxxx
Payroll bank account		xxxx

4. An entry to record the employer's liability for the payroll excise taxes for FICA and Federal and State unemployment insurance. The offsetting debit is to a Payroll Tax account. More than one payroll tax account may be debited if the taxes are to be classified as in the following entry:

Payroll taxes—Selling	xxxx	
Payroll taxes—General	xxxx	
Accrued FICA payable		xxxx
Accrued State unemployment tax payable		xxxx
Accrued Federal unemployment tax payable		xxxx

Illustration—Accounting for Payroll and Payroll Taxes The accounting entries below are based on the payroll journal illustration facing page 460. These entries are for the last week in the month of April. In this illustration, it is assumed that all employees are paid weekly, but some are paid by the hour (the salesclerks); and the other employees (officer and office employees) are paid on a weekly basis. The 30th of April falls on a Sunday, and the payroll period covers Monday through Sunday. On Wednesday (May 3 in this illustration), the payroll for the week ending April 30 is paid. A payroll journal for each of the first three weeks of the month of April is presumed to have been prepared, and the employees have been paid. However, the totals of the weekly payroll journals are brought forward and accumulated for posting to the general

April (first three weeks summarized).

Payroll bank account	3,632.40	
Regular bank account		3,632.40

Explanation: To transfer cash into the payroll bank account to cover the net payroll. (This entry is made in lieu of three weekly entries actually presumed to have been made.)

April 30.

Payroll bank account	888.97	
Regular bank account		888.97

Explanation: To transfer cash into the payroll bank account to cover the net payroll for the last week in April.

April 30.

Sales salaries	2,137.50	
Officers salaries	1,200.00	
Office salaries	1,600.00	
Accrued payroll		4,937.50

Explanation: To record the distribution of the gross payroll and the liability for wages and salaries earned for the month of April.

April 30.

Accrued payroll	3,920.00	
FICA tax withheld		117.60
Federal income tax withheld		170.00
Payroll bank account		3,632.40

Explanation: To record the checks drawn upon the payroll bank account for the first three weeks of April, and the payroll taxes withheld. *Note* that this entry covers the first three weeks of April, and not the entire month. The payroll for the last week of April is not paid until May 3. In other words, this entry relieves the payroll bank account for the checks drawn during the month.

April 30.

Payroll taxes—Selling	130.39	
Payroll taxes—General (officers and office)	118.40	
Accrued FICA tax payable		139.13
Accrued State unemployment tax payable		95.51
Accrued Federal unemployment tax payable		14.15

Explanation: To record the employer's payroll excise tax expense and liability for April, computed as follows:

	Gross Pay	FICA Taxable Wages	Unemploy. Taxable Wages	FICA 3%	State Unemploy. 2.7%	Federal Unemploy. .4%	Total Tax
Sales	2,137.50	2,137.50	2,137.50	64.13	57.71	8.55	130.39
Officers	1,200.00	900.00 *	–0– †	27.00	–0–	–0–	27.00
Office	1,600.00	1,600.00	1,400.00 ‡	48.00	37.80	5.60	91.40
Totals	4,937.50	4,637.50	3,537.50	139.13	95.51	14.15	248.79

* The employee's earning record illustrated on page 456 shows that W. Long has earned $4,800 up to the last week in April. Therefore, his earnings of $300 for the last week in April are not taxable.

† W. Long's wages of $1,200 earned in April are not taxable for unemployment insurance because they are in excess of the statutory limit of $3,000, set by the Federal Government (some states have established a larger maximum taxable wage for unemployment insurance).

‡ Less $200 wages of F. Smythe in excess of $3,000.

ledger at the end of the month. The entries for the transfer of cash into the payroll bank account for the preceding three weeks are the only entries that will have been made up to April 30. The payroll cash transfer entries are summarized in the first entry on p. 460 in order to show all the payroll entries for the month of April (assume no accrued payroll at March 31).

To complete the payroll illustration, the following entry is made on May 3 to pay the April 30 payroll. Entries are also made as of July 31 to pay the taxes withheld and due on the wages for the quarter ended June 30, and as of January 31 of the following year to pay the Federal unemployment insurance for the previous year.

May 3.		
Accrued payroll	1,017.50	
FICA tax withheld		21.53
Federal income tax withheld		104.00
Life insurance premiums payable		3.00
Payroll bank account		888.97
Explanation: To record the payment of the April 30 payroll.		
July 31.		
FICA tax withheld	139.13	
Accrued FICA tax payable	139.13	
Federal income tax withheld	274.00	
Regular bank account		552.26
Explanation: To record payment of the payroll taxes withheld during the calendar quarter ended June 30 [5] (using only the April figures as illustrated) *		
July 31.		
Accrued State unemployment tax payable	95.51	
Regular bank account		95.51
Explanation: To record payment of the State unemployment tax accrued during the calendar quarter ended June 30 (using only April figures as illustrated)		
January 31. (following year)		
Accrued Federal unemployment tax payable	14.15	
Regular bank account		14.15
Explanation: To record payment of the Federal Unemployment Insurance payroll excise tax accrued during the calendar year, 19—. (Using only April figures as illustrated.)		

[5] If during any month (except the third month of a quarter) the combined employer and employee FICA taxes plus the amount of income tax withheld is in excess of $100, the total must be deposited in a Federal depository by the 15th of the month following the collection of the tax by the employer. In the example above, the taxes withheld in April and May being in excess of $100 would have been paid before July. The only taxes that would be paid in July would be the taxes collected in June and the employer's FICA tax for June plus the State unemployment tax for the quarter. The monthly entries are similar to the entry above marked *.

Accrued Workmen's Compensation Insurance

All states require employers to carry some form of insurance to compensate an employee for an injury due to accidents suffered while employed. The cost is borne by the employer and is based on his payroll, less certain exemptions. For example, the salaries of administrative employees may be subject to an insurance premium up to $100. Overtime premiums may also be exempt from the insurance premium. The rate of premium charged by the insurance companies or by the state in a state-administered plan varies with the class or type of work done and the hazards involved. For example, a factory worker may carry a rate of $3 per $100 of payroll, while an office worker may carry a rate of $.25 per $100 of payroll. Many states require the employer to pay an annual or semi-annual deposit to cover the estimated premium. The actual premium is computed at the end of the year and frequently based on an audit by the insurance company or state auditor. At that time, the employer's account is adjusted for the difference between the deposit and the actual premium liability, and a payment is made for the difference or a refund received. The deposit for the next year's premium may be made at the time of an audit.

Example. On January 2, an employer estimates that his payroll for the ensuing year will be $60,000, or $5,000 a month. The compensation insurance rate is $1 per $100. The following entries are made to record

January 2.		
Workmen's compensation insurance deposit	600.00	
Cash		600.00
Explanation: To record the deposit with the insurance company of 1% of the estimated yearly payroll of $60,000.		
January 31.		
Workmen's compensation insurance expense	51.00	
Accrued workmen's compensation insurance		51.00
Explanation: To record the liability for compensation insurance of 1% based on the actual payroll of $5,100, for the month of January.		
February through December:		
The entries are the same as January 31, varying only with the amount of the payroll.		
January 2. (the following year or later following an audit)		
Accrued workmen's compensation insurance	610.00	
Workmen's compensation insurance deposit		600.00
Cash		10.00
Explanation: To record the payment of the liability for compensation insurance; as the deposit was insufficient, an additional payment is made, following an audit.		

the deposit and the accrual of the premium on the basis of the actual payroll.

Other states follow a different procedure from that described above. Instead of making an annual deposit, a permanent deposit is made and held by the state. Periodical returns are made, such as semi-annually, at which time the employer pays the workmen's compensation insurance based on his payroll for the previous period. The initial deposit entry is the same as the entry above—a debit to a Workmen's Compensation Insurance Deposit account and a credit to Cash. Semi-annually, for instance, the payroll for the previous six months is reported and the tax or premium is paid, as illustrated in the following entry:

Workmen's compensation insurance expense	xxxx	
Cash		xxxx
Explanation: To record payment of compensation insurance on the semi-annual payroll paid.		

If the compensation insurance has been accrued monthly, as in the first illustration above, the semi-annual entry is:

Accrued workmen's compensation insurance	xxxx	
Cash		xxxx
Explanation: To record payment of accrued workmen's compensation insurance for the previous six months.		

The Workmen's Compensation Insurance Deposit account may be either a current asset or a non-current asset depending upon the policy of the state in which the insurance is carried. If the State treats the deposit as a prepayment of the yearly liability, it is a current asset. If the State treats the deposit as a permanent deposit, it is a non-current asset, appearing on the balance sheet under the heading, "Investments and Other Assets." The Accrued Workmen's Compensation Insurance account is a current liability.

Other Current Liabilities

Two other situations that give rise to a current liability and deserve mention are the current installment due on a long-term liability (explained and illustrated in Chapter 21), and an estimated liability for guarantees and warranties given upon the sale of a product, such as a consumer durable. Many companies that make consumer durables warrant their products to be free from defective workmanship for varying periods of time. For example, if a warranty extends for a year, the manufacturer will estimate from past experience how much the repairs will cost in a year's time. An entry is made debiting an appropriately

titled expense account and crediting a Warranty Liability account. The Warranty Liability is a current liability. Subsequently, when the repair is made, the Warranty Liability account is debited for the cost of the repair.

QUESTIONS

1. (a) What is a liability? (b) Is the owners' equity a liability? Explain. (c) What are the classes of liabilities?
2. (a) What are the characteristics of a current liability? (b) Are there any circumstances when the amount of an obligation is not definite? Give some examples. (c) How are indefinite obligations shown on the balance sheet? Should they appear on the balance sheet?
3. What is the difference between an account payable and a loan payable?
4. (a) In what order should current liabilities be listed on the balance sheet? (b) Are there any circumstances that may cause the order to vary?
5. How is the net income of a corporation divided among the stockholders?
6. (a) Why are deposits received considered as liabilities? (b) Can a deposit ever become a revenue item?
7. A landlord received advance rents amounting to $24,000, for a lease for three years. (a) What entry should be made for the receipt of the rents? (b) What is the year-end adjusting entry? (c) How is this transaction shown on the balance sheet at the end of the first year?
8. With reference to Question 7(a) and (b), what is the alternative accounting procedure?
9. (a) What Federal taxes is an employer required to withhold for social security and income tax from the employee? (b) What Federal payroll excise taxes are imposed on the employer?
10. What payroll taxes are imposed by the State on the employer? Does the employee contribute to these taxes through tax withholding?
11. Describe the payroll tax reports an employer is required to file, and indicate whether they are Federal or State. (a) Monthly. (b) Quarterly. (c) Annually.
12. An employee works 50 hours in employment covered by the Fair Labor Standards Act. His pay rate is $3 per hour. (a) What are his gross earnings? (b) What is the amount of overtime premium? (c) What is his net pay, assuming FICA tax of 3% and income tax of $10?
13. (a) Describe the function of a clock card. (b) Explain the usual procedures followed in the weekly processing of a clock card.
14. A company pays its employers through a separate payroll bank account. The weekly payroll is $5,000; tax deductions are $1,000. During the month there are five pay days. (a) What are the weekly entries? (b) What is the month-end entry?
15. If the FICA rate is 3%, State unemployment 2%, and the Federal unemployment 3%, what is the entry (referring to Question 14) to record the employer's payroll excise taxes?
16. What is the difference between the Workmen's Compensation Insurance Deposit account and the Accrued Workmen's Compensation Insurance account?
17. A company gives a two-year warranty on its products. Does this create a liability? Explain.

PROBLEMS

Problem 20-1

On April 1, a company negotiated a loan for one year of $100,000 from a bank to build an addition to its factory. The bank charged 6% interest on the unpaid balance each month. The following payments were made on the note:

May 1	$10,000
May 15	20,000
June 1	20,000

Required:

(A) Entry to record the loan.

(B) Entries for the payments on May 1, May 15, and June 1. Add interest to the May 1 and June 1 payments calculated on the unpaid balance at the beginning of the month.

(C) The company's fiscal year ends on June 30. Show how the liability for the note and accrued interest should appear on the balance sheet.

Problem 20-2

The payroll of a small retail store for the week ended July 15 (Saturday), payable Monday, July 17, is as follows:

	Hours Worked						Pay	Withholding
	M	T	W	T	F	S	Rate	Tax, per week
Clerk A	8	8	8	8	8	8	$1.50	$ 8
Clerk B	8	8	–	8	8	8	1.25	7
Clerk C	8	8	4	8	8	4	1.35	6
Dept. Head D	(Note 1)						115.00 week	10
General Mgr. E	(Note 2)						200.00 week	15

Note 1: D's earnings for the year to July 10 are $2,990.
Note 2: E's earnings for the year to July 10 are $5,200.

Required:

(A) Design a payroll journal similar to the one in the text and enter the payroll for the week. Clerks are paid time-and-a-half for hours worked in excess of 40 hours a week.

(B) Record the accrued payroll for the week by general journal entry.

(C) Record the transfer of cash to meet the net amount of the payroll from a regular bank account to a payroll bank account.

(D) Record the payment of the accrued payroll less tax withholding for income tax (given above) and FICA at the rate of 3% (on wages up to $4,800).

(E) Record the accrual of the employer's payroll excise taxes:
  (1) State unemployment of 2.7% on wages up to $3,000.
  (2) Federal unemployment of .4% on wages up to $3,000.
  (3) FICA 3% on wages up to $4,800.

Problem 20-3

The Oldgrad college has been receiving money and securities from parents who are planning to send their children to Oldgrad. The money is to be used

to pay their childrens' tuition. As of January 1, $100,000 has been received and invested in a fund earning 3%. During 1962, an additional $10,000 is received as advance tuitions. Also, during 1962, $15,000 of the amount received in prior years was applied to the tuition of students enrolling in Oldgrad for the first time. As of December 31, 1962, $25,000 of advance tuitions is to be applied against tuitions in 1963, and the balance to years subsequent to 1963.

Required:

(A) Journalize the receipt of prepaid tuitions in 1962.
(B) Journalize the write-off of prepaid tuitions to revenue in 1962.
(C) Show how the balance in the Prepaid Tuition account should appear on the balance sheet as of December 31, 1962.

Problem 20-4

The following is a transcript of an account with Y carried on the books of X, as of July 31:

Y's Account

Sales	1,213.39	Purchases	70.00
Loan	530.00		

On August 15, X made an additional purchase from Y for $700 (credit Accounts Payable).

Also on August 15, X mailed a check to Y for $870.

On August 30, Y endorsed X's check and returned it to X along with his check for an amount required to settle his account.

Required:

(A) Show how Y's account should appear on X's balance sheet as of July 31.
(B) Journalize the entries for August 15.
(C) Journalize the entry or entries for August 30, after determining the amount of Y's check.

Problem 20-5

The following is the work record for a week of a man whose regular wage rate is $2 per hour.

Day	Hours Worked
Monday	8
Tuesday	8
Wednesday	8
Thursday	8
Friday	9
Saturday	5

Required:

If he is paid "time-and-a-half" for all hours over 40 hours per week,

(A) Compute his regular earnings and overtime premium for the week.

(B) Prepare a general journal entry to record the payroll, showing employee's deductions for social security, 3%, and withholding taxes, $8; and the employer's payroll taxes, for social security, 3%; State tax, 2.7%; and Federal unemployment tax, .4%.

SUPPLEMENTARY PROBLEMS

Problem 20-6

The Leroy Company has had a profit-sharing plan with its employees for five years. The plan provides for an annual contribution into a Profit-Sharing Trust Fund of 15% of the company's net income before any provision for income tax, but not in excess of the wages earned by the employees participating in the plan during the year. The annual contribution is paid into the Trust Fund after the close of the fiscal year. The Trust Fund is accounted for as a separate accounting entity administered by a committee of employees.

The net income and wages earned for the past five years appear below:

Year	Net Income before Taxes	Wages
1	$62,000	$ 9,000
2	98,000	14,000
3	45,000	18,000
4	70,000	20,000
5	80,000	25,000

Required:

(A) Draft adjusting journal entries made each year to record the amount payable into the Trust Fund. (Debit Profit Sharing, an expense account for the annual contribution.)

(B) Explain where the accounts that are debited and credited in the foregoing entries appear in the financial statements.

(Form 3)

Problem 20-7

The Arayo Company pays its employees on Fridays for the prior work week ending on Saturday. The employees are paid from a special payroll bank account. The payroll for the week ended Saturday June 30 is detailed below:

Employee	Gross Wage	Income Tax Withholding	Insurance Withholding
A	$ 75	$ 7	$1
B	115	10	1
C	65	6	1
D	55	5	1
E	200	20	2

Further information:

(1) Employee B has been paid $2,990 up through June 30.

(2) Employee E has been paid $5,000 up through June 30.

(3) The following payroll tax rates are in effect:

FICA (3⅛% withheld from the employee and 3⅛% excise tax on the employer).
State unemployment (1.1% excise tax).
Federal unemployment (.4% excise tax).

Note: Observe the amounts of maximum taxable wages referred to in the text.

Required:

(A) Prepare in general journal form the following entries:
  (1) June 30 accrued wages.
  (2) June 30 payment into the payroll bank account for the net wages.
  (3) July 6 payment of the accrued wages.
  (4) July 15 payment of the Income tax withheld and the FICA tax (employees' and employer's shares) on wages *paid* during June:

Income tax withheld	$192.00
FICA tax withheld	50.30

  (5) July 31 payment of the quarterly State unemployment insurance which has been accrued monthly. The total wages earned and paid during the second quarter are $6,120. Of this amount Employee E earned $2,200 in excess of $3,000.
  (6) Accrual on July 6 of the employer's excise payroll taxes for the payroll of the week ending June 30.

(B) Show how the accrued wages and accrued payroll taxes appear on the balance sheet as of June 30.

(Forms 3, 8)

Problem 20-8

The Furbelow Company had five employees for the entire fiscal year ending December 31, 1962. All employees were paid monthly on the last day of each month. The Furbelow Company did not make monthly payments of FICA taxes. A summary of the payroll follows:

Number of Employees	Monthly Salary
2	$300 each
2	$400 each
1	$500

Quarterly payments of FICA taxes and State unemployment taxes were made on the due dates by the Furbelow Company. The State unemployment tax rate was 2.7%. Compute the Federal unemployment tax at .8%.

Required:

(A) In regard to FICA taxes, prepare a schedule showing for each quarter and for the year: (use 3⅛%)
  (1) Gross wages.
  (2) Exempt wages.
  (3) Taxable wages.

(B) In regard to State unemployment taxes, prepare a schedule for each quarter and for the year:
  (1) Gross wages.

(2) Exempt wages.
(3) Taxable wages.

(C) Compute each of the following as of December 31, 1962.
(1) FICA tax payable.
(2) Accrued State unemployment tax payable.
(3) Accrued Federal unemployment tax payable.

(D) Compute each of the following for the year ended December 31, 1962:
(1) FICA tax expense.
(2) State unemployment tax expense.
(3) Federal unemployment tax expense.

(Form 8)

21

Long-Term Obligations

Introduction

A commercial enterprise secures funds to buy, build, meet its current obligations, expand, and perform its functions generally from three sources:

1. Proprietorship investment.
2. Retention of earnings. (Together with the proprietorship investment this is referred to as *equity financing.*)
3. Credit (*debt financing*): (a) Short-term (trade credit or short-term loans and notes). (b) Long-term (long-term notes, mortgage loans, and bond issues).

Many enterprises use all three sources of funds at some time during their existence as a going concern. Which method of financing to use and when to use it is a proper subject of business management and is not primarily the subject matter of accounting. The accountant, however, is frequently called upon to analyze the effect upon an enterprise of choosing one or the other of the alternative sources and methods of financing. It is important, therefore, that he be familiar with the sources and methods of financing business enterprises.

Studies in the area of business financing reveal that companies with a heavy fixed capital investment—i.e., a high ratio of investment in fixed assets to the total assets—rely strongly upon long-term debt financing. Debt financing for this purpose often takes the form of sales of bonds to the investing public. (The accounting for bonds is discussed in a later section of this chapter.)

Long-term debt financing is contrasted with short-term debt financing

in Chapter 20, where it is pointed out that long-term obligations are those obligations that do not mature within one year or within the normal operating cycle if the cycle is longer than one year. Railroads, public utilities, and large manufacturing concerns are examples of business corporations that rely heavily upon long-term financing. The balance sheets of these companies usually show a large percentage of long-term liabilities in relation to their total assets. Smaller industrial and trading companies, partnerships, and single proprietorships tend to finance their acquisition of assets by proprietorship investment, retention of earnings, and short-term obligations.[1]

Between debt financing (short-term or long-term) and equity financing, there are many complex circumstances operating internally and externally that affect the choice of financing methods. As used here, the expression "equity financing" is the interest of the owners in a business enterprise, i.e., the amount of capital invested and the earnings retained for use in the business. The following are a few questions that owners and managers, assisted by their accountants, bankers, and investment specialists should ask:

1. How much is needed, for what purpose, and for how long?
2. Will the control of the enterprise be affected? For instance, a sale of additional capital stock in a closely held corporation presents a problem of control if the present stockholders are not in a position to make further investment.
3. What is the economic climate? Is it more desirable to sell stock or to borrow? A borrower is a "purchaser" of money. He pays a price in the form of interest for the use of money. At certain times in the phases of the business cycle, the demand for money is greater than at other times; therefore, credit becomes restricted and interest rates rise. Borrowing under these conditions may not be as desirable as equity financing.

The foregoing questions are partially answered by the following illustration of "doing business on borrowed capital." This is a phrase used to describe the effects of doing business on borrowed capital in addition to invested capital.

Illustration—Some Effects of Doing Business on Borrowed Capital The following financial statements are prepared for a trading company for the year 1961:

[1] Hickman, W. Braddock. *The Volume of Corporate Bond Financing Since 1900*, pp. 5–6. A study of the National Bureau of Economic Research, published by Princeton University Press, Princeton, N.J., 1953.

BALANCE SHEET December 31, 1961	
Assets	$55,000
Liabilities	none
Owners' equity:	
Capital stock	$50,000
Retained earnings	5,000
	$55,000

INCOME STATEMENT Year Ended December 31, 1961		
Sales	$100,000	(100%)
Less: Costs that vary with sales	80,000	(80%)
Balance	$ 20,000	(20%)
Less: Costs that are fixed (depreciation, salaries, etc.)	10,000	
Net Operating Income before Federal income tax	$ 10,000	
Federal income tax (assumed rate 50%)	5,000	
Net Income	$ 5,000	

From the foregoing statements, the following observations are made: (1) The present return on the owners' equity (based on the beginning of the year) is 10% ($5,000 ÷ $50,000); and (2) The amount of sales needed to "break-even" is $50,000. This figure is computed by applying the following formula. (Fixed and variable costs are explained in Chapter 15.)

$$\text{Sales at break-even} = \frac{\text{Fixed Costs}}{1 - \dfrac{\text{Variable Costs}}{\text{Sales}}}$$

$$\text{Sales at break-even} = \frac{\$10{,}000}{1 - \dfrac{80{,}000}{100{,}000}} = \frac{10{,}000}{1-.80}$$

$$\text{Sales at break-even} = \frac{10{,}000}{.20} = \$50{,}000$$

Proof:

Sales at break-even	$50,000
Variable costs (80%)	40,000
Balance	$10,000
Fixed costs	10,000
Net Income/Loss	-0-

Continuing the illustration, at the beginning of the year 1962, the company borrows $50,000, payable in ten years with interest at 6% per annum. The $50,000 is used to build a warehouse which has an estimated useful life of ten years. Assume that the increased facilities enable the company to increase its sales by 56%. At the end of 1962, the following financial statements are prepared:

BALANCE SHEET December 31, 1962		INCOME STATEMENT Year Ended December 31, 1962		
Assets	$111,600	Sales	$156,000	(100%)
		Variable Costs	124,800	(80%)
Long-term liability	$ 50,000	Balance	$ 31,200	(20%)
Owners equity:		Fixed Costs:		
Capital stock	50,000	Depreciation, etc., same as the prior year	$ 10,000	
Retained earnings	11,600	Depreciation on warehouse acquired in 1962	5,000	
	$111,600	Interest ($50,000 × 6%)	3,000	
		Total Fixed Costs	$ 18,000	
		Net Income before Federal income tax	$ 13,200	
		Federal income tax (assumed rate 50%)	6,600	
		Net Income	$ 6,600	

From the foregoing statements, the following observations are made:

1. Return on the owners' equity (based on the beginning of the year), 12% ($6,600 ÷ $55,000 equity capital at the beginning of the year).

2. Break-even point—$90,000 (i.e., Fixed Costs, $18,000 ÷ 20%).

3. By expanding through the use of borrowed capital, the stockholders have increased the return on their investment from 10% (in 1961) to 12%. If the company can continue to produce enough additional revenue to meet its variable costs of 80% of every dollar of revenue, plus its added fixed costs of $8,000 ($5,000 and $3,000), then the added cost of doing business on borrowed capital in the form of a fixed interest cost can be profitable. The risk, however, of doing business partly on borrowed capital and partly on equity capital in 1962, and in future years until the loan is paid, is greater than it was in 1961. This is evidenced by the increase in the break-even point from $50,000 to $90,000.

Classification of Long-Term Liabilities

Long-term liabilities take on a variety of forms depending upon such considerations as: (a) the purpose of the obligation, (b) the availabilty of credit, (c) the movements of the business cycle, (d) the character and reputation of the borrower, (e) the ability of the borrower to meet the interest payments and repay the obligation, (f) the financial condition of the borrower and the risk undertaken by the lender, and (g) local, state, and Federal legislation regulating the issuance of certain forms of obligations. The following is a classification of some of these considerations:

Classification by Lender.

1. Single unit, in effect, only one lender, such as:
   (a) A bank, or
   (b) An insurance company, or
   (c) An individual, or
   (d) A governmental agency.
2. Multiple unit:
   (a) Bonds of various types and denominations (where there is more than one lender, and the obligation is divided among them).

Classification by the Nature of the Security (i.e., Collateral).

1. Secured liabilities:
   (a) Chattel mortgage (for example inventory, equipment, or stocks or other bonds).
   (b) Real property mortgage (for example land and buildings).
2. Unsecured liabilities:
   (a) Debentures.
   (b) Long-term notes without security, other than the personal integrity and general financial condition of the borrower.

Classification of Bonded Indebtedness by Registration.

1. Registered:
   (a) As to principal and interest.
   (b) As to principal only.
   (c) As to interest only.
2. Non-registered:
   (a) Coupon bonds.

Classification by the Nature of the Interest Obligation.

1. Fixed annual obligation to pay interest, or
2. Interest based upon the borrower's earnings.

Classification by the Time of Repayment of the Liability.

1. Term liabilities—payable at a fixed date.
2. Serial liabilities—payable over a period of time in series.
3. Callable—payable upon call at the option of the borrower and/or at the option of the lender.
4. Convertible—payable through conversion into stock or other form of security.

Accounting Problems of Long-Term Liabilities

In this chapter, the following accounting problems arising from long-term notes payable and bonds payable are explained in detail:

Recording the debt.
Paying the interest on the debt.

Repayment of the debt.
Balance sheet presentation of long-term debts.

In connection with bonds payable, the further problem of amortizing the premium or the discount on the bonds payable is also explained.

Accounting for Long-Term Notes Payable (i.e., single-unit debt financing) The majority of business concerns that borrow funds for long-term financing do so from a single lender, such as banks and insurance companies. When a loan is negotiated from a single lender, it is common for the borrowing concern (mortgagor) to give a mortgage and a promissory note to the lending agency (mortgagee). The mortgage is a legal instrument that serves as a *pledge of the title* to the concern's property as security that the debt will be repaid when it is due. The promissory note is a written *promise* to repay the loan. If the security for the mortgage is real property, such as land or buildings, it is termed a *real property mortgage.* The accounting for the loan, the interest payments, and the repayment of the loan is the same whether the loan is secured by a *chattel mortgage* on personal property or a real property mortgage. Loans of this nature usually provide for repayment of the principal and interest in one of two ways: (a) the periodical payment, for instance, monthly, includes interest on the *unpaid balance* of the principal at the beginning of the period, or (b) the periodical payment includes interest on the amount of the *principal payment* or installment.

Example 1. (a) A printing concern purchases a large press costing $100,000. A loan is negotiated from a bank repayable in five annual installments, with interest payable at the rate of 6% per annum on the unpaid principal from the beginning of the year. As security for the loan, the bank is given a chattel mortgage on the equipment.

End of Year	Payment	Interest	Principal Payment	Principal Balance
0				$100,000
1	$26,000	$6,000	$20,000	80,000
2	24,800	4,800	20,000	60,000
3	23,600	3,600	20,000	40,000
4	22,400	2,400	20,000	20,000
5	21,200	1,200	20,000	-0-

Entry for the loan:

Cash	100,000	
Mortgage note payable		100,000

Explanation: To record a loan negotiated from the bank, due in five years with interest at 6% per annum on the unpaid principal balance, after applying annual payments of $20,000, each.

Entry for the purchase of the equipment:

Equipment	100,000	
Cash		100,000

Explanation: To record the purchase of a printing press.

Entry for the annual payment of principal and interest:

Mortgage note payable	20,000	
Interest expense	6,000	
Cash		26,000

Explanation: To record payment of the principal and interest on the unpaid principal balance of $100,000 at the rate of 6% per annum.

If the fiscal year closes before the interest payment is made, the accrued interest should be recorded. In presenting the loan on the balance sheet, the current installment due each year ($20,000) is shown as a current liability. The balance of the loan is shown as a long-term liability, in the following manner (at the end of the first year after one payment has been made):

Current Liabilities:		
Installment on mortgage note payable		$20,000
Long-term Liabilities:		
6% mortgage note payable due X bank (secured by a chattel mortgage on equipment—per contra)	$80,000	
Less: Current installment (see above under current liabilities)	20,000	$60,000

Example 2. (b) A bus company purchases a bus for $60,000 and gives a finance company ten notes, each bearing 6% interest per annum, the first note due within one year, and the balance serially each year thereafter. The bus company gives a chattel mortgage to the finance company as security.

Entry for the loan:

Cash	60,000	
Installment mortgage notes payable		60,000

Explanation: To record a loan received from the Y Finance Co., payable in ten installments with interest at 6% per annum on each installment due from the date of the loan to the date of payment.

Entry for the purchase of the equipment:

Bus equipment	60,000	
Cash		60,000

Entry for the payment of installment note and interest:

Installment mortgage notes payable	6,000	
Interest expense	360	
Cash		6,360

Explanation: To record payment of the first installment note together with interest for one year at 6% per annum.

Entry at the end of the first year to record the accrual of interest on the balance of the notes:

Interest expense	3,240	
Accrued interest payable		3,240

Explanation: To record accrual of interest on 9 notes of $6,000 each, a total of $54,000 for one year with interest at 6% per annum.

As in the preceding example, the liability for the current year's installment and the balance of the installments are shown at the end of the first year in the following manner:

Current Liabilities:		
Installment mortgage note payable	$6,000	
Accrued interest on installment mortgage notes payable	360	
Long-Term Liabilities:		
Installment mortgage notes payable due Y Finance Co. (secured by a chattel mortgage on bus equipment—per contra)	$54,000	
Less: Current installment (see above under current liabilities)	6,000	48,000
Accrued interest due beyond one year		2,880

Accounting for Bonds Payable (Multiple-debt financing) When the amount of a loan is large, business concerns may seek to borrow funds from the investing public through an issue of bonds. Bonds are long-term promissory notes usually issued under seal by a business enterprise (in most cases a corporation), in denomination usually of $1,000, although some bonds may be issued in other denominations such as $10,000, $5,000, $500, or $100. Bonds may be secured, as in the case of the mortgage notes described in the preceding section, or they may be unsecured. A debenture bond, for example, is an unsecured bond, backed only by the credit of the issuing company. Bond issues of large amounts are usually subscribed to (*underwritten*) by investment bankers and then sold to the investing public. Bonds may be *floated* (i.e., marketed) on the basis of a negotiation between the borrowing company and an underwriter (usually an investment bank), or they may be floated on the basis of competitive bidding in which several investment banks offer to underwrite the bond issue. The principal steps in floating a bond issue through an underwriter are:

1. Approval of the loan by the company's board of directors.
2. Consultation with investment bankers, lawyers, accountants, economists, and other specialists for the purpose of determining the feasibility of the loan, the type of bonds to issue, and the price at which the bonds should be offered.

3. After the preliminary investigation, an agreement is drawn and a trustee appointed to act as the representative of the company and the bondholders to protect their mutual interests. One of his duties consists of making certain that the security for the loan is as described in the bond indenture, and that the interest is being paid regularly.

4. In almost all cases, state and Federal legislation requires that the company submit a balance sheet and other financial data to governmental agencies, such as the Securities and Exchange Commission, for approval, before the bonds may be marketed. The preparation of these reports is usually the responsibility of public accountants and attorneys.

5. The bonds are printed and sold to the underwriter who in turn sells them to his clients, the investing public.

Recording a Bond Issue Attention is directed to the following significant features of the bond issue that have a bearing on subsequent accounting entries:

1. The par value of the issue and the denomination of the bond.
2. The date of maturity.
3. The rate of interest payable and the dates of the interest payments.

The stated rate of interest is at an annual rate, even though the interest is paid semi-annually, quarterly, or possibly monthly. For example, a 6% bond, interest payable semi-annually, means 3% payable every six months. If the bonds are coupon bonds, coupons are printed as a part of the bond. There is one coupon for each interest date for each bond printed. For example, the total par value of a bond issue due in ten years is $500,000. The issue consists of 500 bonds of a denomination of $1,000 each. To each of these 500 bonds there are attached 20 coupons (i.e., 10 years $\times$ 2 coupons per year) of $30 each (i.e., $1,000 par value $\times$ 6% $\times$ ½). If the bond, on the other hand, is registered as to interest, the borrowing company or the bond trustee sends checks to the bondholders every six months. The variation in accounting procedure in disbursing interest on coupon and registered bonds is described in a later paragraph.

Recording the Sale of the Bond Issue Bonds may be sold at par value, at a premium, or at a discount. They may be sold either on an interest date, or they may be sold between interest dates. The entries for the sale of an authorized issue of 6% First Mortgage bonds due in ten years, having a total par value of $500,000, which are referred to in the preceding paragraph, are illustrated under various conditions on page 479.

Recording Bond Interest Payments If the bond interest is payable through a trustee, as is often the case, the borrowing company transfers sufficient cash to the trustee's bank account to meet the interest payment. This procedure is followed whether the bonds are registered or coupon bonds. The difference is that the liability for the interest payable on a

Case 1 The bonds are sold on an interest payable date, assumed to be either January 1 or July 1 in the following examples:

Bonds Sold at Par Value			Bonds Sold at a Premium			Bonds Sold at a Discount		
Cash	500,000		Cash	512,500		Cash	491,250	
Bonds payable		500,000	Premium on bonds		12,500	Discount on bonds	8,750	
			Bonds payable		500,000	Bonds payable		500,000
Explanation: To record the sale of 500 bonds at par value.			Explanation: To record the sale of 500 bonds at $102\frac{1}{2}$.			Explanation: To record the sale of 500 bonds at $98\frac{1}{4}$.		

Case 2 The bonds are sold between interest dates, for example on March 1. The assumed interest payment dates are January 1 and July 1. In this case the buyer pays accrued interest on the par value of the bonds purchased for the period beginning with the day after the last interest date, to and including the date the bonds are purchased. In this case it is assumed that the period of accrued interest is two months (January 1 to March 1) and the amount of accrued interest is \$5,000 (\$500,000 × 6% × 2/12).

Cash	505,000		Cash	517,500		Cash	496,250	
Bonds payable		500,000	Premium on bonds		12,500	Discount on bonds	8,750	
Accrued bond interest payable		5,000	Accrued bond interest payable		5,000	Accrued bond interest payable		5,000
			Bonds payable		500,000	Bonds payable		500,000

registered bond is extinguished when the trustee sends checks to the bondholders. But in the case of a coupon bond, the company must wait for the trustee to submit a report of disbursements to bondholders for coupons turned in for collection. The following entries, continued from the example in the preceding sections, illustrate these two cases (it is assumed that the bonds were sold on an interest date, January 1):

Registered Bond			Coupon Bond		
July 1			*July 1*		
Trustee bond interest fund	15,000		Trustee bond interest fund	15,000	
Regular bank account		15,000	Regular bank account		15,000
Explanation: To record a deposit of cash with the bond trustee sufficient to meet the semi-annual interest payment of $15,000 ($500,000 × 6% × ½).			Explanation: To record a deposit of cash with the bond trustee sufficient to meet the semi-annual interest payment of $15,000 ($500,000 × 6% × ½).		
July 1			*July 1*		
Bond interest expense	15,000		Bond interest expense	15,000	
Accrued bond interest payable		15,000	Accrued bond interest payable		15,000
Explanation: To record the accrual of the balance of interest payable for the period January 1 to July 1—6 months' interest on $500,000 at 6% per annum.			Explanation: To record the accrual of the balance of interest payable for the period January 1 to July 1—6 months' interest on $500,000 at 6% per annum.		
July 1			*August 1*		
Accrued bond interest payable	15,000		Accrued bond interest payable	10,000	
Trustee bond interest fund		15,000	Trustee bond interest fund		10,000
Explanation: To record payment by the trustee.			Explanation: To record payments made by the trustee from the coupon fund during the month of July.		

The foregoing entries are made semi-annually. If the company closes its books on December 31, however, the bond interest of $15,000 must be accrued on December 31. On January 1, the interest is deposited with the trustee. In the case of the coupon bond, when there is an undisbursed balance in the Trustee Bond Interest Fund, this amount is shown in the balance sheet as a current asset. The Accrued Bond Interest Payable account is shown as a current liability in the balance sheet. Instead of depositing cash with the Trustee, other companies deposit sufficient cash to meet the bond interest liability in a Special Bond Interest account, in the manner described in Chapter 20 for the Payroll bank account.

Amortization of Premium and Discount on Bonds Payable The premium or discount on a bond payable is amortized (written off) at the time the interest is recorded. In effect, the amortized portion of the premium is a *reduction* of the bond interest expense. The amortized portion of the discount is an *addition* to the bond interest expense. In other words, when bonds are sold at a premium, or at a discount, the effective rate paid (or the yield to the investor) is less or greater than the nominal rate. The investor is interested in the risk he is taking in lending money to a corporation and in the yield or effective rate of interest he is going to *earn,* rather than the cash he is going to *receive.* The borrowing company, on the other hand, is interested in the amount of interest expense that will be *incurred* in borrowing money rather than the amount of cash to be *paid.* If the bonds are sold at par, the effective rate is the same as the nominal rate. If the bonds are sold at a premium, the effective rate is less than the nominal rate, and if sold at a discount, the effective rate is more than the nominal rate. The difference between the effective rate and the nominal rate can be calculated approximately as illustrated in the following simplified example. (More accurate, but still approximate, methods involving the use of bond interest tables or tables of present values are covered in textbooks on business finance.)

Example: A $1,000 par value bond due in five years and bearing a nominal rate of interest of 4% is offered for sale at 103½. What is the approximate effective rate of interest paid?

Solution:

Price of the bond ($1,000 × 103½)	$1,035	
Par value	1,000	
Premium	$ 35	
Annual amortization (a credit to the bond interest expense) (⅕ × $35)	$ 7	
Annual interest paid ($1,000 × 4%, a debit to bond interest expense)	40	
Difference: *Effective amount* of interest	$ 33	
Effective rate of interest (approximate) $33 ÷ (1,000 + 1,035 ÷ 2) =		3.2%

The entries to record the amortization of a premium or a discount are illustrated below. The figures used are a continuation of a sale of a 6%, $500,000 bond issue due in ten years (illustrated on page 479, Case 1). In one case the bonds are sold at a price of 102½; in the other case the bonds are sold at 98¼. The accounting entries are similar to those described in Chapter 19 in the section, "Investment in Bonds."

Continuation of the preceding example—entries to amortize the premium or discount on July 1, the date of the first interest payment.

Amortization Entry for Bonds Sold at a Premium

July 1—Premium on bonds	625.00	
Bond interest expense		625.00

Explanation: To record the amortization of the premium of $12,500 over ten years (20 semi-annual periods). The amortization for six months is:

Semi-annual amortization:

$12,500 ÷ 20 semi-annual periods = $625.00

Amortization Entry for Bonds Sold at a Discount

July 1—Bond interest expense	437.50	
Discount on bonds		437.50

Explanation: To record the amortization of the discount of $8,750 over ten years (20 semi-annual periods) calculated as follows:

Semi-annual amortization:

$8,750 ÷ 20 semi-annual periods = $437.50

Unamortized Discount and Premium in the Balance Sheet The unamortized portion of the discount or premium on bonds payable is usually shown respectively on the balance sheet as a deferred charge or a deferred credit. Many accountants have expressed disapproval of this treatment, particularly in showing the unamortized discount as a deferred charge, and therefore as an addition to the assets. If a deferred charge is considered to be a long-term prepayment (as explained in Chapter 19), it is difficult to apply this definition to a discount on bonds payable. A bond discount is an amount *not received* rather than a prepayment. It has no realizable value and does not correspond to the definition of an asset as something of value owned. Many accountants, therefore, recommend that the unamortized portion of the bond discount be shown on the balance sheet as a deduction from the liability, bonds payable. Similarly, many accountants recommend that an unamortized bond premium be shown as an addition to the liability for bonds payable, rather than as a long-term deferred credit. (See Chapter 20 for a discussion on long-term revenues received in advance.) This does not increase the liability, but shows the approximate present value of the amount of money borrowed. The following balance sheets illustrate the presentation of the unamortized

METHOD 1

Premium on Bonds
Balance Sheet
July 1

Liabilities:		
Deferred credits:		
Unamortized bond premium	$11,875.00 *	
Long-term liabilities:		
Bonds payable (*authorized and outstanding)	$500,000.00	

*($12,500 − 625 = $11,875)

Discount on Bonds
Balance Sheet
July 1

Assets:		
Deferred charges:		
Unamortized bond discount		$8,312.50 *
Liabilities:		
Long-term liabilities:		
Bonds payable (*authorized and outstanding)		$500,000.00

*($8,750 − 437.50 = $8,312.50)

METHOD 2

Premium on Bonds *Balance sheet* *July 1*		*Discount on Bonds* *Balance sheet* *July 1*	
Liabilities:		*Liabilities:*	
Long-term liabilities:		*Long-term liabilities:*	
Bonds payable (*authorized and outstanding)	$500,000.00	Bonds payable (*authorized and outstanding)	$500,000.00
Add: Unamortized bond premium	11,875.00	*Less:* Unamortized bond discount	8,312.50
	$511,875.00		$491,687.50

* If part of an authorized bond issue has not been sold, the balance sheet should indicate the amount of bonds unissued. The class of bond and rate of interest payable should also be noted.

discount or premium on a $500,000 bond issue, after posting the July 1 entry in the preceding section of this chapter.

Repayment of a Bond Issue A bond issue is either repaid in one amount at the end of a definite period of time, or it is repaid serially. The first type of bond is a term bond; the second is a serial bond.

At the time a term bond issue is negotiated, it is frequently specified that a *Sinking Fund* be provided to pay the liability at maturity. A sinking fund provided under these conditions is an annual or semi-annual deposit usually of cash into a special bank account, administered by the trustee. In addition to an annual deposit of cash into a special fund, the bond trust indenture sometimes requires that retained earnings be appropriated or restricted by the accumulated amount of the required annual deposits. This restriction provides additional security to the bondholder, in that a portion of the retained earnings will not be available to pay dividends to the stockholders until after the bonds are matured and paid. A sinking fund may be operated by the borrowing company, or it may be operated by the bond trustee. The entries to establish a sinking fund are outlined below:

Example. A $500,000, 6% First Mortgage bond matures in ten years. A sinking fund is to be provided and maintained with annual deposits of $50,000, less any income the fund may have earned. A sinking fund appropriation is also to be made with an annual appropriation of retained earnings of $50,000.

1961			
Dec. 31	Sinking fund cash	50,000	
	Cash		50,000
	Explanation: To record the deposit of cash in a special bank account to be used to meet the bonds payable at maturity in the total amount of $500,000.		
Dec. 31	Retained earnings	50,000	
	Reserve for sinking fund		50,000
	Explanation: To record an appropriation of retained earnings to the extent of the annual contribution to the sinking fund.		

1962			
Jan. 2	Sinking fund investments	50,000	
	Sinking fund cash		50,000
	Explanation: To record the investment by the bond trustee of the cash in the sinking fund in government bonds, earning 3% per annum.		
Dec. 31	Sinking fund cash	1,500	
	Sinking fund income		1,500
	Explanation: To record the earnings received on the sinking fund investments in government bonds of $50,000.		
Dec. 31	Sinking fund cash	48,500	
	Cash		48,500
	Explanation: To record the annual deposit into the sinking fund, less the current year's earnings ($50,000 − $1,500).		
Dec. 31	Retained earnings	50,000	
	Reserve for sinking fund		50,000
	Explanation: To record an appropriation of retained earnings to the extent of the annual contribution required to be made to the sinking fund.		

Entries similar to the foregoing are repeated annually for the term of the bond. As the amount of the sinking fund increases, the earnings become greater and the annual deposit into the sinking fund becomes less. When the bond reaches maturity, the Sinking Fund account should equal the par value of the Bonds Payable account. The Reserve for Sinking Fund, having served the purpose of restricting retained earnings, is restored to the Retained Earnings account:

1971			
Dec. 31	Sinking fund cash	500,000	
	Sinking fund investments		500,000
	Explanation: To record the sale of the sinking fund investments. Note: If the investments had been sold at a gain or at a loss, a separate account—Gain or Loss on Sale of Investments would be debited or credited. (It is assumed in this example that the entire fund has been invested.)		
Dec. 31	Bonds payable	500,000	
	Sinking fund cash		500,000
	Explanation: To record the maturity and payment of the bonds payable.		
Dec. 31	Reserve for sinking fund	500,000	
	Retained earnings		500,000
	Explanation: To restore the appropriated retained earnings in the sinking fund reserve to retained earnings.		

Throughout the life of the bond issue, any income earned on the sinking fund investments or any gain or loss arising from investment transactions

is treated as extraneous income or expense in the income statement. The Sinking Fund Cash and Sinking Fund Investments accounts appear in the balance sheet under the heading, "Long-Term Investments." The Reserve for Sinking Fund account appears in the balance sheet under the heading of "Retained earnings" in the following manner:

BALANCE SHEET
Dec. 31, 1961

Long-Term Investments		Long-Term Liabilities	
Sinking fund cash	$50,000	Bonds payable (authorized and outstanding)	$500,000
		Owners' Equity	
		Retained earnings:	
		Reserve for sinking fund	$ 50,000
		Free	100,000
		Total	$150,000

Refunding Bond Issue A bond issue may be extinguished at maturity or before maturity by refunding. A new bond issue is sold and the proceeds used to repay a prior issue, or a new issue is exchanged for an old issue. In effect, this is a substitution of one liability for another. Problems of financing, accounting, and taxation arise when there is an unamortized premium or discount on the old issue. There are several alternatives:

1. To write-off the unamortized premium or discount immediately.
2. To amortize the balance of the premium or discount over the remaining life of the original issue.
3. To amortize the premium or discount over the life of the new issue.

Accounting Research Bulletin Number 43 [2] favors the second method, although it views an immediate write-off as an acceptable accounting practice. The Internal Revenue Service requires that the balance of the premium or discount be amortized over the life of the new issue when there is an exchange of new bonds for old bonds.

QUESTIONS

1. What is the difference between equity financing and debt financing?
2. What are some of the types of debt financing?
3. What is meant by "doing business on borrowed capital"?
4. (a) How is the "return on invested capital" determined? (b) How does this serve as a criterion for judging the value of "doing business on borrowed capital"?

[2] Cf. Chapter 15.

5. What is the formula for computing the "break-even" point?
6. What are some of the forms of collateral given to secure an obligation?
7. What is the difference between a term bond and a serial bond?
8. The principal of a 3% First Mortgage Payable, dated January 1, 1962, and due in ten years is $50,000. Payments of principal and interest are made semi-annually. What is the entry required on July 1, 1962?
9. On December 31, how should the liability referred to in Question 8 be shown on the balance sheet?
10. (a) What is a bond? (b) How is a bond issue floated through the services of an underwriter?
11. A $1,000,000 bond issue is sold at par. It pays an annual rate of interest of 4% on January 1. The bonds are due in 20 years. (a) What is the entry for the sale of the bonds on January 1? (b) What entry is required on December 31?
12. If the bonds in Question 11 had been sold at 102, what would be the entries: (a) On January 1? (b) On December 31?
13. What is the difference between a nominal and an effective rate of interest? If a 4% bond is sold to yield 3% to the investor, what is the nominal rate? The effective rate? Would the bond be sold at a premium or a discount?
14. What are the contrasting views with regard to showing unamortized discount or premium on bonds on the balance sheet?
15. How may a bond issue be retired?

PROBLEMS

Problem 21-1

The Cuneiform Corporation was authorized to issue $100,000 of 4% ten-year bonds dated January 1, 1962. The interest is payable semi-annually. All of the bonds were sold on March 1, 1962, for $98,033.34 and accrued interest. The bond indenture required an annual deposit with the bond trustee for the purpose of setting up a sinking fund to pay off the bonds at maturity. The fund is expected to earn 3% per annum on the fund investments. The earnings on the sinking fund are to be retained in the sinking fund to apply against the annual deposits. The first deposit was made on December 31, 1962. In addition, an annual appropriation of retained earnings is to be made by setting up a sinking fund reserve.

Required:

(A) The journal entry or entries to record the sale of the bonds.
(B) The journal entries on July 1, 1962.
(C) The journal entries on December 31, 1962.
(D) A partial balance sheet showing the effects of the foregoing transactions on the balance sheet. Assume retained earnings of $25,000.
(E) The journal entries on December 31, 1963. Assume that sinking fund cash deposits were invested on January 1 of each year.

Problem 21-2

On January 1, 1963, a company expands its operations by building an addition to its factory. The cost of the addition is $60,000, with an expected useful life of 12 years. The company borrows $40,000 on January 1, 1963, at 5% per annum to be repaid in 12 years to be used to pay for the addition. The

balance is paid by the sale of additional capital stock. During 1963, the total revenue earned by the company is $280,000.

The following condensed balance sheet and income statement is prepared for the preceding year, 1962:

BALANCE SHEET
December 31, 1962

Assets (details omitted)		$100,000
***Current Liabilities* (details omitted)**		$ 30,000
Owners' Equity:		
Capital stock	$50,000	
Retained earnings	20,000	70,000
		$100,000

INCOME STATEMENT
Year Ended December 31, 1962

Revenues	$200,000
Variable Costs (details omitted)	120,000
Balance	$ 80,000
Fixed Costs (details omitted)	60,000
Net Income before tax	$ 20,000
Income tax (50%)	10,000
Net Income	$ 10,000

Note: There were no investments or dividends received or paid during 1962.

Required:

(A) Set up T accounts and post the account balances taken from the above balance sheet.

(B) Post to T accounts the entries made on January 1, 1963, for: (1) the loan of $40,000, (2) the sale of capital stock, and (3) the payment to the contractor for the addition to the factory.

(C) Post to T accounts the following entries for the year 1963:
  (1) Total revenues earned, $280,000.
  (2) Variable costs. (Use "Variable Costs" as the title of the account.)
  (3) Fixed costs (the same as those incurred in 1962, plus additional depreciation and interest expense for 1963). (Use "Fixed Costs" as the title of the account.)

(D) Balance the T accounts as of December 31, 1963, and prepare a trial balance.

(E) Prepare a balance sheet and an income statement for 1963, in the same manner as the above statements.

(F) Determine the amount of sales necessary to break even as of December 31, 1962 and 1963.

(G) Determine the return on the stockholders' investments for 1962 and 1963.

Problem 21-3

A construction company borrows $500,000 for 20 years from an insurance company with which it constructs an apartment building. The note given to the insurance company for the loan is payable quarterly, together with interest at 5% per annum on the unpaid principal balance at the beginning of the quarter.

Required:

Assuming that the loan is negotiated on July 1, the beginning of the fiscal year of the construction company, show how the loan principal and ac-

crued interest would appear on its balance sheet as of June 30, the end of the first fiscal year.

Problem 21-4

A $1,000,000 bond issue due in 20 years, of the R & H Company, is underwritten on July 1 by an investment bank at 101¼. The bonds are coupon bonds bearing 4% interest payable semi-annually, on January 1 and July 1. The R & H Company has employed the Third National Bank as a trustee and depository for the semi-annual interest payments.

Required:

(A) The entry on July 1 for the sale of the bonds to the investment bank.
(B) The entries on December 31 to:
  (1) Accrue the interest expense.
  (2) Amortize the bond premium.
(C) The entry on January 1 of the following year to deposit cash with the Third National Bank Trustee to cover the matured coupons.
(D) The entry on February 1 based on a report by the bank that 90% of the coupons due have been paid.

Problem 21-5

On January 1, 1962, the board of directors of the Little Company authorized the issue of $100,000 of 4%, 20-year bonds, interest payable January 1 and July 1. A sinking fund is to be established, into which annual deposits are to be made, less any income the fund earns. The sinking fund investments are expected to earn 3% a year. An annual appropriation of retained earnings to the extent of the sinking fund is to be established also. On May 1, $60,000 of the bonds are sold for $62,360.

Required:

(A) The entry on May 1 for the sale of the bonds plus accrued interest.
(B) The entry on July 1 for the payment of the interest due and the amortization of the premium.
(C) The entry on December 31, the end of the fiscal year, accruing the interest and making the first deposit into the sinking fund to provide funds to meet the outstanding bonds at maturity.
(D) A partial balance sheet showing the effects of the foregoing transactions. It is assumed that the Little Company has retained earnings as of December 31, 1962, of $15,000.
(E) The entries on January 1, 1982, for the sale of the sinking fund investments of $60,000 at a gain of $3,000, the payment to the bondholders for the matured bonds, and the return to retained earnings of the reserve for the sinking fund appropriation.

SUPPLEMENTARY PROBLEMS

Problem 21-6

The trust deed of a bond issue stipulates that $500,000 in 10-year bonds may be issued against certain property that has been mortgaged to secure the issue. The bonds are to bear interest at 4%, payable semi-annually. $400,000 of the bonds are sold to an investment bank at 107.

Required:

(A) Record the bond issue.

(B) Record the payment of interest on the first interest date, and the amortization of the bond premium.

(Form 3)

Problem 21-7

Given the following transactions:

April 1, 1962—Sold $250,000 of 6%, 10-year bonds for $246,100 plus accrued interest. The interest is payable semi-annually on January 1 and July 1. The bonds mature on January 1, 1972.

July 1 —Interest paid and discount amortized.

Dec. 31 —Interest accrued and discount amortized.

Dec. 31 —A sinking fund is provided, together with a sinking fund reserve for one-tenth of the amount of the bond issue.

Required:

Prepare journal entries with complete explanations for the above transactions.

(Form 3)

22

The Formation and Organization of Corporations

Nature of the Corporate Form of Business Enterprise

The corporation, like other forms of business organizations, has certain distinctive legal features that affect its accounting procedures and financial statements. The accounting for a corporate enterprise is best understood, therefore, if its legal background is first outlined.

A classic definition of a corporation is to be found in a decision handed down by Chief Justice John Marshall in the famous *Dartmouth College Case,* in which Daniel Webster represented the college in an action against the state of New Hampshire in 1817. Justice Marshall said:

A Corporation is an artificial being, invisible, intangible, and existing only in contemplation of law. Being the mere creature of law, it possesses only those properties which the charter of its creation confers upon it, either expressly or as incidental to its very existence . . . Among the most important immortality . . . individuality . . . perpetual succession . . .[1]

From this definition, the following characteristics of a corporation are evident:

1. A corporation is created by the authority of some state or by the Federal Government. A partnership, on the other hand, can come into existence by a contract entered into by the individual partners and with much less formality. The right of the corporation to exist is expressed in a *charter* granted by a governmental authority. No such expression is necessary for the single proprietor or partnership to do business.

2. The corporation is a legal entity and therefore has an existence

[1] 4 Wheaton 518; 4 LED 629, 1819.

apart from the persons who form and operate it. For example, the stockholders, who are the owners of a corporation through stockholdings, cannot conduct the affairs of the corporation acting in their capacity as stockholders. They can act only through their elected board of directors.

3. A corporation has continuous or perpetual succession, unless the charter specifies otherwise. Unlike a partnership, wherein a change in partners dissolves the partnership, a change in stockholders is a change only in stock ownership. The legal existence of the corporation is not affected when one stockholder transfers his stock to someone else. When a partnership is dissolved and a new partnership formed, the books in many cases must be closed, and a new set of books opened. The corporation's accounting records are unaffected by a change in stockholders, other than to record the transfer of stock. This procedure is described in a section of this chapter, "Corporate Records."

Some Advantages of the Corporate Form of Business Enterprise

A corporation has advantages over other forms of business enterprise, arising from its nature. Some of these advantages are:

Limited Liability With few exceptions, a stockholder risks only the loss of his investment. In the case of a single proprietorship or a partnership, the owner or owners risk not only their investment in the business but their other personal possessions as well.

Ease of Transferability of Ownership As stated above, corporate shares of stock are transferable without a change in the existence of the legal entity, or even in the management. Furthermore, corporate investors, particularly investors in large corporations, whose stock is listed on the national security exchanges, can find a *ready market* for their shares.

Stockholder Not an Agent of the Corporation or the Other Stockholders Whereas one partner can obligate the other partners, perhaps unprofitably, a stockholder has no authority to act for a company or the other stockholders.

Relative Ease in Acquiring New Capital Because of its ability to issue stock to many different investors, a corporation can usually raise new capital and consequently expand to a greater proportion than a partnership or a single proprietorship that must depend on additional capital from a relatively small number of investors.

Taxation A partnership does not pay an income tax to the Federal Government, although information returns must be filed, setting forth the details of the net taxable income of the partnership. The partners, however, must file, and are subject to income tax on their *distributable* portions of the net income of the enterprise, whether these amounts are

paid to them or not. A corporation, on the other hand, is taxed on its taxable net income after accruing properly deductible salaries to any stockholders serving the corporation as employees. The stockholder in his capacity as an employee is taxable only on the salary he receives. The earnings that a corporation pays to its stockholders as dividends, however, are taxable when earned by the corporation and taxable to the stockholders when received.[2]

Some Disadvantages of the Corporate Form of Business Enterprise

A corporation has some disadvantages in comparison with other forms of business enterprise. Some of them are:

Taxation For example, the stockholders in a corporation operating at a loss cannot offset their share of the corporate loss against other income they may earn. They must dissolve the corporation to accomplish this. If the enterprise were a partnership, the partners' distributable shares of the partnership loss could be deducted from their other income to effect a tax savings. Another disadvantage is the "double-tax" (see above).

Formality of Operation The conduct of the affairs of a corporation is much more formal than for a partnership or proprietorship, principally because a stockholder, as such, cannot act directly for the corporation either as an individual or jointly with the other stockholders.

Division of Profits A partnership may divide its net income in any manner the partners decide. The net income of a corporation must be divided when distributed to the stockholders, in proportion to the number of shares held by each. Moreover, the net income of a corporation can be distributed only after formal declaration by the board of directors. The division of the corporate net income takes the form of a *dividend.*

Legal Formation of the Corporation

Most business corporations are formed under the authority of a state. The steps taken vary slightly with the type of corporation and the jurisdiction, but generally they adhere to the following pattern:

1. Number of stockholders required and their qualifications. In some states a minimum of three incorporators having the requisite legal age, citizenship, and residence will have an attorney prepare:

[2] This "double-tax" can be eliminated if the corporation elects, after meeting certain qualifications, to be treated as a partnership. Internal Revenue Code, Secs. 1371, 1372.

2. A Certificate of Incorporation that includes the following information:

(a) Proposed name of the corporation. (The proposed name will have been approved in a preliminary investigation.)
(b) Purpose or purposes for which the corporation is being formed.
(c) The amount and classes of capital stock (i.e., shares of ownership).
(d) The principal place of business of the corporation.
(e) The duration of the corporation. (If limited; otherwise it is perpetual.)
(f) The names and addresses of the incorporators.
(g) The names and addresses of directors to serve until the first meeting of the stockholders.

3. The Certificate is filed with the Secretary of the State in which the corporation is to be legally domiciled, together with the required filing fee and stamp tax based on the amount of authorized capital stock.

4. The approval by the State and the grant of the Charter.

5. The initial meeting of the subscribers or incorporators.

6. The initial meeting of the board of directors elected by the incorporators who in turn elect the officers.

7. The adoption of by-laws by the board of directors that will govern the affairs of the corporation. Some significant by-laws of interest to the accountant are:

(a) The date of the end of the fiscal year.
(b) The duties and salaries of the officers.

Management of the Corporation A corporation, being an artificial person, can operate only through its directors and officers. Some of the rights and duties of the directors are:

1. To formulate and guide the policies of the corporation within the framework of the by-laws and the Charter.

2. The right to declare dividends. The corporation statutes of some states describe the source from which a dividend can be declared as the excess of the assets over the liabilities and *contributed* capital. This excess is generally referred to as a *surplus,* and it includes the accumulated earnings. The nature and kinds of "surplus" are described in Chapter 23.

3. The duty to represent the corporation with the highest degree of integrity.

4. The right to elect officers to perform the necessary actions to carry out the policies of the corporation.

The duties of the officers of a corporation are set forth in the corporate by-laws. They usually provide for a president, vice-president, secretary, and treasurer. Delegated to these officers, for instance, is the right to sign checks and other legal documents, the responsibility to plan and

direct business operations, to establish and maintain proper accounting procedures, and to prepare financial reports and tax returns.

Rights of Stockholders A stockholder generally is granted certain rights when he subscribes to stock. They consist of:

1. The right to receive a stock certificate as evidence of ownership. Until the certificate is paid for, the by-laws of a corporation may provide that the certificate cannot be issued. Nevertheless, while he may not have a paid certificate, a subscriber becomes a stockholder when his subscription is accepted.

2. The right to transfer his certificate providing there are no specific restrictions. When a stock certificate is transferred, it must be endorsed or assigned. The secretary of the corporation keeps a record of the stock transactions of the stockholders in a *stock certificate book* and in a *stockholders' ledger.*

3. The right to vote. Generally, one share of stock entitles the holder to one vote. This right is regulated by the Charter and by-laws. When there is more than one class of stock authorized, the right to vote is frequently restricted to one class of stock.

4. The right to dividends. The right to receive a dividend or a share of the corporate "surplus" is restricted to dividends lawfully declared by the board of directors. The sources from which dividends are declared are described on page 521.

5. The right to inspect the corporate books. In many states, the statutory right of inspection is limited to an inspection of the stock record books in which are recorded the names, addresses, and stockholdings of the stockholders.

6. The right to receive financial statements. Many Federal and state agencies require annual financial reports to be filed. This right has been extended by statute to the stockholders by some states; however, most corporations do submit annual financial reports to their stockholders.

7. Pre-emptive right. A stockholder has a right to subscribe to newly authorized capital stock in proportion to the number of shares he owns before the stock is offered to others.

8. The right to share in the assets upon dissolution of the corporation. After the debts of the corporation are paid, the stockholders have the right to share proportionately in the remaining balance of the assets. If there are different classes of stock, this right is regulated by the charter which may establish priorities of payment among the different classes of stock.

Corporate Records

A corporation whose capital stock is widely held usually finds it necessary to keep the following records of stock transactions:

1. A stock certificate book.
2. A stockholders' ledger.
3. A stock transfer journal.

For those corporations whose stock is listed on a stock exchange, the foregoing records are required to be kept by a *transfer agent,* usually a metropolitan bank. Smaller corporations, however, whose stock is closely held, usually keep only the stock certificate book. This is basically the only book necessary to identify the stockholders of the corporation. All corporations keep a *minute book* in which are transcribed the minutes of meetings of the board of directors and the stockholders. If the initial offering of stock is subscribed to by many individuals, the corporation may also keep a *subscribers' ledger* that operates in much the same manner as an accounts receivable subsidiary ledger.

The *stock certificate book* is handled in much the same manner as a check book. When a certificate is issued, the name of the stockholder is enscribed on the certificate and on the attached stub. The certificate is signed by the proper corporate official, stamped with the corporate seal, and delivered to the stockholder. In addition to the name of the stockholder, the date, the certificate number, and the number of shares is written on the stub and on the certificate. If the stockholder subsequently sells his stock, his certificate is returned to the corporation where it is cancelled and so noted on the certificate stub. A new certificate is issued to the buyer for the number of shares he has purchased.

The *stock transfer journal* is a record of the stock certificates received for cancellation and the new certificates issued.

The *stockholders' subsidiary ledger* is controlled by the Capital Stock account in the general ledger. The entries to the stockholders' ledger are posted from the stock transfer journal for those certificates that are transferred between stockholders. The transfer entries do not affect the balance in Capital Stock control account because there is no change in the number of shares outstanding. When stock is sold by the corporation to the stockholders, or given to them in the form of a stock dividend (see Chapter 23), or purchased from them for re-issue or cancellation, the entries in the stockholders' ledger are posted from the cash receipts journal, the general journal, or the cash disbursements journal. The total of the stockholders' ledger and the balance in the Capital Stock control account are increased or decreased by these transactions.

Organization Expense

The expense of organizing a corporation includes the attorney's fee for drafting the Certificate of Incorporation and other related legal services, promotional expenses, the cost of printing stock certificates, Federal and State stamp taxes which must be affixed to the stock certificates, and the expense of selling the capital stock through investment bankers, such as underwriting expense and commissions. Accountants are not in agreement as to the disposition of these organization expenses. This point is discussed in detail in Chapter 19.

Stock Values

The capital stock of a corporation is referred to in terms of different values: par or no-par value, liquidation value, market value, and book value.

Initially, a corporation has the choice of authorizing the issuance of either *par value* or *no-par value* stock. If a corporation chooses to issue par value stock, it designates in the Certificate of Incorporation what the denomination of the par value is to be. The amount so designated per share becomes a nominal or face value printed on each stock certificate. In practice, the par value may range from as little as $.10 per share to $100 or more per share. Once having established a par value per share, corporations are restricted by some states from selling unissued stock below that value. If stock is sold at a discount, some states hold the stockholder liable for the discount. In one state, for example, a corporation that sells stock at a discount is required to stamp this fact on the stock certificate. If the stock certificate is subsequently transferred, the transferee in this state assumes the risk of paying the amount of the discount to the corporation's creditors. In some states, the discount liability remains with the original stockholder.

Because a nominal or face value printed on a stock certificate has been misleading to many investors who may have purchased stock through unscrupulous promoters, many corporations have adopted the practice of issuing stock certificates without par value. The consideration or value received by the corporation then becomes the value at which the capital stock is recorded on the books of account (unless the board of directors chooses a lower value at which to record the stock). Many states that have had capital stock taxes based on a par value have passed laws, with the advent of no-par value stock, that require corporations to

assign a *stated value* to the no-par value stock issue. The stated value thus becomes a minimum value per share or a minimum total value for which a corporation may be capitalized.

In addition to an initial par or no-par value given to preferred stock, corporations may provide for a *liquidation value,* or a value for which shares of preferred stock are redeemed from the stockholders, upon voluntary or involuntary liquidation, if assets are legally available.

After capital stock has been issued, it may have a *market value.* This is the value established at any given time between the forces of supply and demand meeting in a market place. If the stock is traded, in other words bought and sold, through national or local security exchanges, the market value is the price of the last previous transaction. Many corporations, though, are owned by only a few stockholders who do not offer their stock for sale but who intend to hold it as a permanent investment. Stock in these corporations has no readily determinable market value.

A value that is frequently referred to by management, stockholders, governmental agencies, and others is *book value.* When there is only one kind of stock, the book value of a share of stock is determined by the following formula:

$$\text{BOOK VALUE PER SHARE} = \frac{\text{ASSETS} - \text{LIABILITIES}}{\text{NUMBER OF OUTSTANDING SHARES}}$$

Any reference to the significance of a value derived in this manner should be made conservatively and not without considerable investigation by the user of the information. In several chapters of this book, reference is made to the problems of asset valuation. Corporations and other business enterprises follow different practices in accounting for the valuation and amortization of assets. For example, there are different accounting practices with respect to the amortization of intangible assets and deferred charges. (See Chapter 19.) Furthermore, changes in the values of assets caused by changes in economic conditions are not recorded until the assets have been bought or sold. Consequently, unless the reader of the balance sheet is thoroughly familiar with the accounting practices behind the stated values of a specific balance sheet, any reliance that would be placed upon the book value of stock in a company may lead to erroneous conclusions. For example, the balance sheets of two similar corporations at the end of their first year of operations are illustrated below. Company A treats organization expense ($1,000) as a deferred charge; Company B has charged organization expense (also $1,000) to its Retained Earnings account.

The difference of $5 per share in the book value is due to Company B's policy of treating its organization expense as a revenue expenditure,

COMPANY A *Balance Sheet* *December 31, 19—*		COMPANY B *Balance Sheet* *December 31, 19—*	
Other assets	$22,000	Assets	$22,000
Deferred charges:			
Organization expense	1,000		
Total Assets	$23,000		
Owners' Equity:		Owners' Equity:	
Capital stock, consisting of 200 shares	$20,000	Capital stock, consisting of 200 shares	$20,000
Retained earnings	3,000	Retained earnings	2,000
Total Owners' Equity	$23,000	Total Owners' Equity	$22,000
Book value per share of stock: ($23,000 ÷ 200 shares) = $115.00		Book value per share of stock: ($22,000 ÷ 200 shares) = $110.00	

instead of a capital expenditure. Unless Company B disclosed this policy in its financial report, the reader of the balance sheet would not know why Company B's book value per share differed from Company A's.

Classes of Stock

Capital stock is described in Chapter 21 as a source of *equity capital.* Like any form of investment, shares of capital stock must be made attractive to the investor who has different reasons for investing in equity capital. In addition to considering the market price of the stock, the degree of risk involved and the rate of earnings, investors may purchase stock for the purpose of control or to receive certain priorities in the form of dividends or in the distribution of assets in the event of the dissolution of the corporation. To satisfy these objectives, corporations frequently authorize different classes of stock in the Certificate of Incorporation. Basically, there are two classes of capital stock—common and preferred.

Common stock is a share of ownership without any preferences or priorities, except that in most cases it is the voting stock. *Preferred* stock is a share of ownership to which is given a preference, usually in the form of a stated dividend rate of the total par value of the preferred stock outstanding. A preferred stock dividend must be paid first before a distribution is made of any dividend to the common stock. Preferred stock may also be given a preference in the distribution of assets in the event of a corporate dissolution by being paid par or a liquidation value first before the common is paid. The rights of the common and preferred stockholders vary with corporations. For instance, a corporation may provide that the voting right be withheld from the common stock

and given to the preferred in the event the preferred stock dividend is not declared for a stated number of years.

When there are two classes of stock, the preferential rate of dividend payable to the preferred stock may be cumulative and participating. *Cumulative preferred stock* is stock that grants to the stockholder the right to receive first any dividends in arrears when a dividend is declared. In other words, if a dividend is not declared in one year, it accumulates from year to year. When a dividend is declared, the dividends in arrears must be paid first. *Non-cumulative preferred stock* provides that a dividend not declared in any year is passed forever. It is important to note that a corporation has no obligation to declare a dividend payable to the preferred stock in any year, even though it has a sufficient amount of retained earnings from which to declare a dividend.

Example 1. To illustrate the cumulative features of preferred stock, consider that a corporation has outstanding 500 shares of 6% preferred stock having a par value of $100 per share (i.e., a total par value of $50,000) and 1,000 shares of $100 par value common stock (i.e., $100,000). Even though the corporation had sufficient earnings for the past two years, the board of directors has decided not to declare a dividend. If at the end of the third year, a dividend of $10,000 is declared, it is distributable as follows (depending upon whether the preferred is cumulative or non-cumulative):

CUMULATIVE		NON-CUMULATIVE	
Preferred:		*Preferred:*	
Dividend in arrears (500 shares × $100 par value per share × 6% × 2 years)	$ 6,000	Dividend in arrears	–0–
Current year's dividend ($50,000 × 6%)	3,000	Current year's dividend ($50,000 × 6%)	$ 3,000
Common:		*Common:*	
Balance	1,000	Balance	7,000
Total	$10,000	Total	$10,000

Participating preferred stock shares with the common stock in any dividends declared in excess of the regular rate of dividend payable to the common and preferred stock. The participating feature usually applies only after the common stock has received a *like rate* as the preferred. *Non-participating stock* receives only its regular preferential rate when a dividend is declared. Any dividend declared in excess of this amount is payable to the common stock. In the preceding example, the preferred stock is assumed to be non-participating. Participating preferred stock may share in this right in a variety of ways. The investor should inform himself regarding the participation and other rights pertaining to stock before purchasing. One common method of

participation is to allow the preferred to share with the common in the declared dividend after the preferred has received its preferential rate for the current year, and after the common has received a *like rate.*

Example 2. A company has an issue of 250 shares of 4%, $100 par value preferred stock (i.e., a total par value of $25,000) which is cumulative and participating. Dividends have not been declared for the previous year. There are also 1,500 shares of $50 par value common stock outstanding or a total common par value of $75,000. The board of directors declares a dividend of $6,000, divided as follows (the steps involved are enumerated):

	Preferred	Common	Total
Dividend in arrears	$1,000 (1)		$1,000
Current year's dividend	1,000 (2)	$3,000 (3)	4,000
Participating dividend	250 (4)	750 (4)	1,000
Totals	$2,250	$3,750	$6,000

The following procedures are used in distributing the $6,000 declared dividend:

(1) $25,000 preferred par value × 4%.
(2) $25,000 preferred par value × 4%.
(3) $75,000 common par value × 4% (the same or like rate as the preferred).
(4) $1,000 balance of dividends divided pro rata among the preferred and common stockholders (in proportion to the total par value of the shares outstanding):

Preferred	$25,000 (1/4) × $1,000 =	$ 250
Common	75,000 (3/4) × 1,000 =	750
Total	$100,000	$1,000

In the preceding example, the preferred stock participated *fully* with the common stock. However, a corporation may limit the rate of participation by specifying a maximum rate the preferred stock may receive as a current year's dividend. For example, in the preceding illustration, the preferred received a current rate of 4% ($1,000) and a participating rate of 1% ($250). If the preferred stock certificate specified a current rate of 4% and participation *up to* 5%, then the preferred stockholders could not receive any more than $1,250 as a current year's dividend, plus any dividends in arrears. The balance of any declared dividends would then go to the common stockholders.

Extended Illustration. The following is a tabulation of the distribution of $10,000 declared dividend under varying conditions to the 4% pre-

ferred stock 250 shares, $100 par value; and common stock 1,500 shares, $50 par value. It is assumed that the preferred dividends are one year in arrears.

Preferred rights:	Non-Cumulative Non-Participating	Cumulative Non-Participating	Non-Cumulative Participating	Cumulative Participating	Cumulative Participating to 5%
Dividend declared	$10,000	$10,000	$10,000	$10,000	$10,000
Preferred:					
Dividend in arrears	–0–	$ 1,000	–0–	$ 1,000	$ 1,000
Current dividend	$ 1,000 *	1,000	$ 1,000	1,000	1,000
Participating dividend	–0–	–0–	(¼) 1,500	1,250	250
Total	$ 1,000	$ 2,000	$ 2,500	$ 3,250	$ 2,250
Common:					
Current dividend	$ 9,000	$ 8,000	$ 3,000 †	$ 3,000	$ 3,000
Participating dividend	–0–	–0–	(¾) 4,500	3,750	4,750
Total	$ 9,000	$ 8,000	$ 7,500	$ 6,750	$ 7,750

* 250 shares × $100 = $25,000 total par value
$25,000 × 4% = $ 1,000 dividend
† 1,500 shares × $50 = $75,000 total par value
$75,000 × 4% (like rate paid to the preferred) = $3,000 dividend

QUESTIONS

1. What are the distinguishing features of a corporation?
2. In what ways do the distinguishing features of a corporation affect the accounting for a corporation?
3. Cite a few of the advantages and disadvantages of the corporate form of business organization.
4. Briefly describe the steps involved in forming a corporation.
5. Who manages the affairs of a corporation? Describe their rights and duties.
6. (a) What are the rights possessed by a stockholder? (b) When does a stockholder receive these rights?
7. What are the principal corporate records, aside from the books of account? Briefly describe their principal function.
8. What is meant by the terms: par value, no-par value, liquidation value, market value, book value, and stated value?
9. How reliable is a figure for the book value of a share of stock?
10. Why do investors purchase capital stock?
11. Describe the features of the different classes of capital stock.

12. A company has outstanding $100,000—6% cumulative and participating preferred stock; dividends are two years in arrears. There is also outstanding $200,000 of common stock. At the end of the current year, the board of directors declares a dividend of $30,000. How much will each class of stockholder receive?

PROBLEMS

Problem 22-1

A company has outstanding $100,000 of 6% preferred stock and $200,000 of common stock. Dividends declared over two consecutive years were as follows:

1st year	$15,000
2nd year	$36,000

Prepare tables showing the distribution to the preferred and common stockholders under varying conditions as follows:

Case 1: Preferred non-cumulative, non-participating.
Case 2: Preferred cumulative and non-participating.
Case 3: Preferred non-cumulative and participating.
Case 4: Preferred cumulative and participating.

The preferred is two years' dividends in arrears at the beginning of the first year.

Problem 22-2

The following is a condensed balance sheet of the Union Co. as of December 31, 1962.

Assets		Liabilities	
Total assets (details omitted)	$200,000	Accounts payable	$ 15,000
		Note payable	10,000
		Dividend payable (prior year)	5,000
		Bonds payable	50,000
		Unamortized premium on bonds payable	4,000
		Sinking fund reserve	10,000
		Capital stock	100,000
		Retained earnings	6,000
Total Assets	$200,000	Total Liabilities	$200,000

Required:

(A) Determine the amount of "surplus" available for payment of dividends.
(B) If the available "surplus" was declared as a dividend, what percentage of dividend would each stockholder receive?
(C) If the bonds payable were retired at par, how much "surplus" would be available for dividends?

Problem 22-3

Indicate which of the rights of stockholders has been violated in the following cases:

(a) The president of a corporation who owns 90% of the outstanding stock has paid himself a bonus in the form of 1,000 shares of previously unissued stock.

(b) A corporation has been earning $200,000 annually for several years. It has a relatively large amount of retained earnings. No dividends have been declared or paid since the company was organized.

(c) Jones owns 10% of the stock of the Maxwell Co. He wants to sell his stock to one or more of the other stockholders in the company, but he does not know their names or addresses. He called at the offices of the company and asked to see the stockholders' ledger but his request was refused.

(d) Smith owned 100 shares of stock in the Orwel Co. He sold the stock to Johanson. When Johanson asked to have Smith's certificate canceled and a new certificate issued to him, the company refused on the ground that the Certificate of Incorporation specified that the capital stock of the company could not be transferred by a stockholder unless it was first offered to the company for purchase by it. Smith had not done this.

SUPPLEMENTARY PROBLEMS

Problem 22-4

The X Corporation's outstanding stock consisted of 1,000 shares of 4%, $100 par value, preferred stock; and 4,000 shares of $50 par value common stock. The Board of Directors declared dividends as follows:

1959	$ –0–
1960	10,000
1961	15,000
1962	21,000

Prepare a schedule showing, for each year, the amounts received by each class of stock if the preferred stock is:

(A) Non-cumulative, non-participating.
(B) Cumulative, non-participating.
(C) Non-cumulative, fully participating.
(D) Cumulative, fully participating.
(E) Non-cumulative, participating to the extent of a total of 6%.

(Form 10)

Problem 22-5

The stockholders of the Western Corporation have decided to dissolve the company. All of the assets have been converted into cash. The company's balance sheet prior to the dissolution is set forth below:

THE WESTERN CORPORATION
Balance Sheet
October 1, 19—

Assets	
Cash	$60,000
Liabilities and Stockholders' Equity	
Liabilities:	
Accounts payable	$15,000
Stockholders' Equity:	
* Capital stock preferred, 5%, cumulative, non-participating, $100 par value	$10,000
Capital stock common, $100 par value	$50,000
Total Capital Stock	$60,000
Deficit	(15,000)
Total Stockholders' Equity	$45,000
Total Liabilities and Stockholders' Equity	$60,000

* The preferred dividends are in arrears for two years. The preferred stock is preferred as to assets in the event of dissolution.

Required:

(A) Journal entries to record the dissolution of the corporation and the closing of the books.

(B) Give the journal entry to record payment to the stockholders, assuming the preferred is not preferred as to assets.

(Form 3)

23

Accounting for the Corporate Owners' Equity

Review of the Nature of the Owners' Equity

The equity of the owner or owners in any enterprise consists of the total of the assets minus the total of the liabilities. In a single-proprietorship and in a partnership, the owners' equity is represented by a single capital account in the name of the proprietor or two or more capital accounts in the names of the partners. A capital account as it appears on the general ledger of these two forms of business enterprise generally includes the following transactions:

CAPITAL ACCOUNT

Debits	*Credits*
Withdrawals	Investments
Net loss	Net income

The balance of a capital account in the more conventional form of balance sheet appears as an addition to the liabilities. However, it may appear as a remainder after subtracting the liabilities from the assets. Preparing a balance sheet in the form of a report and showing the owner's equity as a remainder emphasizes the proprietary interest. If the capital account has a debit balance (the liabilities therefore exceed the assets), the capital account balance appears on the balance sheet as a deduction from the liabilities or it may appear as a negative remainder.

The owners' equity of a corporation is essentially the same as that of the other forms of business enterprise, with one major difference. The

owners' equity of a corporation is separated into two elements: (1) capital stock, and (2) the excess of the assets over the liabilities *and* par or stated value of capital stock. Until recent years, this excess was commonly referred to as *surplus* (see page 517). These two elements—the capital stock and the "surplus"—are distinguished throughout the corporate accounting procedure in the journals, the ledgers, and in the financial statements and reports. The accounting for capital stock and "surplus" is described in the following sections.

CAPITAL STOCK

Accounting for Issuance of Par Value Capital Stock

In Chapter 22, the nature of the classes of stock—par and no-par, common and preferred—are described in detail. It is left now to describe the accounting procedures for capital stock. There are four distinct operations involved in the issuing of shares of capital stock:

1. The *authorization* of the issue as set forth in the Certificate of Incorporation and approved by the Charter.
2. The *subscription* to all or part of the authorized issue.
3. The *payment* for the subscriptions.
4. The formal *issuance* of the stock certificates.

When the shares are subscribed to, paid for, and issued simultaneously, these three operations may be combined in one accounting entry. Preceding this entry, however, there should be a memorandum entry in the general ledger Capital Stock account describing the details of the capital stock authorization. The following example illustrates the *minimum essentials* required for an accounting for the issuance of capital stock:

1. A memorandum entry in the general ledger outlining the details of the authorized issue.

CAPITAL STOCK — Account No. 70

19—	Memorandum entry:	
1/1	(The corporation is authorized to issue 1,000 shares of $100 par value stock)	

2. A cash receipts journal entry to record the receipts from the subscribers to the capital stock.

19— June 1	Cash	10	100,000	
	Capital stock	70		100,000
	To record the sale of 1,000 shares of $100 par value common stock *			

* The names of the stockholders, the number of shares and certificate numbers issued appears in the stock certificate book, as described in Chapter 22.

When there is a lapse of time between the subscription to stock and the payment and issuance of the stock certificates, a corporation may find it necessary to make separate entries for the *subscription, payment,* and *issuance* of the certificates. The authorization entry may still be recorded in memorandum, or journalized as in the following entries:

1. *Authorized issue.*

Unissued capital stock	100,000	
Capital stock authorized		100,000
Explanation: to record the authorization to issue 1,000 shares of $100 par value common stock.		

2. *Subscriptions received.*

Subscriptions receivable	100,000	
Capital stock subscribed		100,000
Explanation: To record subscriptions received for 1,000 shares of $100 par value common stock. (The Subscriptions Receivable account is a control account. The individual subscriptions are recorded in a subscriber's subsidiary ledger.)		

3. *Payments received from the subscribers.*

Cash	100,000	
Subscriptions receivable		100,000
Explanation: To record payments received from subscribers.		

4. *Stock certificates issued.*

Capital stock subscribed	100,000	
Unissued capital stock		100,000
Explanation: To record the issuance of stock certificates to the subscribers. (The names of the stockholders, the number of shares issued, and the certificate number are recorded in the stock certificate book.)		

When an entry is made debiting an Unissued Capital Stock account, as in the above example, it should be understood that an account for

unissued stock is not an asset; it is an anticipation of assets to be received when the stock is subscribed and paid for. Until that time the Unissued Capital Stock account appears on the balance sheet as an offset to the Capital Stock Authorized account. For example, if, in the preceding illustration only 750 shares had been subscribed and paid for, the Unissued Capital Stock account would have a balance of $25,000. The owners' equity section of balance section of balance sheet would then appear as follows:

Owners' Equity:	
Capital stock:	
Authorized, 1,000 shares, $100 par value	$100,000
Less: Unissued stock, 250 shares	25,000
Issued and outstanding 750 shares	$ 75,000

The Common Stock Subscribed account is credited for the par value of the stock for which subscriptions have been received and debited for the par value of the stock certificates issued. The balance is an equity account and represents the total par value of stock subscribed; it is in the nature of an obligation of the corporation to issue stock certificates when the subscribers have completed payments on their subscriptions. In the example following, it is assumed that 1,000 shares of $100 par value common stock are authorized, 750 shares are subscribed, 650 shares are fully paid and the certificates issued, and 100 shares are 50% paid. The entries are as follows:

1. *Authorized issue.*

Memorandum entry in Capital Stock account:

Explanation: The company is authorized to issue 1,000 shares of $100 par value common stock.

2. *Subscriptions received.*

Subscriptions receivable	75,000	
Capital stock subscribed		75,000

Explanation: To record subscriptions received for 750 shares of $100 par value common stock.

3. *Payments received from subscribers.*

Cash	70,000	
Subscriptions receivable		70,000

Explanation: To record payments from subscribers as follows:

Fully paid 650 shares	$65,000
50% paid on 100 shares	5,000
Total payment	$70,000

4. *Stock certificates issued.*

Capital stock subscribed	65,000	
Capital stock authorized		65,000
Explanation: To record the issuance of 650 shares of fully paid stock certificates.		

A balance sheet prepared after posting the foregoing entries is illustrated below:

A COMPANY
Balance Sheet
January 31, 19—

Assets		*Stockholders' Equity*	
Cash	$70,000	Capital stock authorized, 1,000 shares $100 par value common stock, of which 650 shares are issued and outstanding	$65,000
Subscriptions receivable—Common stock	5,000	*Add:* 100 shares subscribed, not issued.	10,000
Total	$75,000	Total	$75,000

Accounting for Issuance of No-Par Value Stock

When no-par value stock is subscribed to, paid for, and issued in one transaction, the entry is the same as illustrated on page 507. If time elapses between the subscription and the issuance, separate entries are made as described below. It is assumed in the following explanation that a corporation is authorized to issue 10,000 shares of no-par value stock, and that subscriptions are received for the entire issue at $10 per share. The total amount is considered to be the stated value.

Authorized Issue Because the stock has no par value, the entry for the authorized issue can appear in the general ledger only in memorandum form, in which the details of the number of shares and any stated or assigned value, are outlined. As explained in Chapter 22, the board of directors may by decision, or as directed by state legislation, assign a *stated value* to the no-par value common stock.

Subscriptions Received This entry is the same for no-par value stock as par value stock. If a corporation has an issue of both par and no-par value stock, the account titles should include the terms "par" or "no-par." If there is only one class of stock, no designation is necessary. The Capital Stock Subscribed account in the case of no-par stock is credited for the stated value of the subscribed shares.

Payments Received The entry is the same as the par value stock payment entry.

Stock Certificates Issued The entry for the issuance of no-par stock is:

Capital stock subscribed—no par	100,000	
Capital stock authorized—no par		100,000

Explanation: To record the issuance of 10,000 shares of no-par value stock.

Accounting for Sale of Par Value Stock at a Premium or a Discount

The entries to account for the sale of par value stock at a price in excess of the par value (premium) or at a price below the par value (discount) appear below:

Case 1: Stock Subscribed to at a Premium

1. *Authorized issue.*

Memorandum entry in Capital Stock account:

Explanation: The company is authorized to issue 1,000 shares of $100 par value common stock.

2. *Subscriptions received.*

Subscriptions receivable	105,000	
Capital stock subscribed		100,000
Premium on capital stock		5,000

Explanation: To record subscriptions to 1,000 shares of $100 par value capital stock at $105 per share.

3. *Payments received from the subscribers.*

Cash	105,000	
Subscriptions receivable		105,000

Explanation: To record payments received.

4. *Stock certificates issued.*

Capital stock subscribed	100,000	
Capital stock authorized		100,000

Explanation: To record stock certificates issued.

Case 2: Stock Subscribed to at a Discount

1. *Authorized issue:* Memorandum same as above.
2. *Subscriptions received.*

Subscriptions receivable	95,000	
Discount on capital stock	5,000	
Capital stock subscribed		100,000

Explanation: To record subscriptions to 1,000 shares of $100 par value stock at $95 per share.

3. *Payments received from the subscribers.*

Cash	95,000	
Subscriptions receivable		95,000

Explanation: To record payments received.

4. *Stock certificates issued.*

Capital stock subscribed	100,000	
Capital stock authorized		100,000

Explanation: To record stock certificates issued.

Accounting for Sale of No-Par Value Stock in Excess of Stated Value

In Chapter 22, no-par value stock is described as stock without a face or nominal value. Consequently, there can be no premium or discount attached to no-par stock in the same sense as par value stock. No-par value stock, however, may be sold at a price in excess of a stated value assigned to it by the board of directors or in excess of a minimum value per share provided by the legislation of some states. Furthermore, if the board of directors established a stated value at the time of the sale of an initial block of stock, different stated values may be established for subsequent sales. Presumably, however, a board of directors would attempt to maintain a constant stated value. If no stated value has been assigned to the no-par value stock, the entire proceeds is credited to the Capital Stock—No-Par Value account.[1] If a stated value is given to no-par value stock, entries are made as follows: (In this illustration, 10,000 authorized shares of no-par value capital stock are given a stated value of $10 per share. They are sold for $11 per share.)

1. *Authorized issue.* A memorandum entry appears in the general ledger account, explaining the authorization to issue 10,000 shares of no-par stock with a stated value of $10 per share.
2. *Payment received.* (It is assumed that payment is received at the time of the subscription.)

Cash	110,000	
Capital stock authorized—No-par		100,000
Excess over stated value		10,000

Explanation: To record payment received for 10,000 shares of no-par common stock at $11 per share. The board of directors has assigned a stated value of $10 per share.

[1] The laws of some states require that the entire proceeds from the issuance of no-par stock be regarded as the legal or stated capital.

Balance Sheet Presentation of the Premium, Discount, or Excess Over Stated Value The premium on par value stock, or the excess over the stated value of no-par value stock may appear on the balance sheet in different ways. One way is to add these amounts to the par or stated value of the capital stock outstanding. In this manner, the total amount received for the stock is clearly and directly shown as making up the contributed capital.

Another way is to show these amounts as additions to "surplus," although they still represent a part of the contributed capital. In many cases, the premium on par value stock or the excess over stated value of no-par value stock is not a part of the legal capital of the corporation and, in some states, the premium or excess is available for dividends. Under these circumstances, many accountants have shown the premium or excess under the heading of "Surplus."

An illustration comparing the two methods applied to par and no-par stock appears below.

FIRST METHOD

Par value stock		No-par value stock	
Capital Stock:		Capital Stock:	
Common stock, $100 par value, 500 shares authorized, issued and outstanding	$50,000	Common stock, no-par, 5,000 shares authorized, issued and outstanding, with a stated value of $10	$ 50,000
Premium on common stock	2,500	Excess over stated value	2,500
Total Contributed Capital	$52,500	Total Contributed Capital	$52,500
Retained earnings	25,000	Retained earnings	25,000
Total Stockholders' Equity	$77,500	Total Stockholders' Equity	$77,500

SECOND METHOD

Capital Stock:		Capital Stock:	
Common stock, $100 par value 500 shares authorized, issued and outstanding	$50,000	Common stock, no-par, 5,000 shares authorized, issued and outstanding with a stated value of $10	$50,000
Surplus:		Surplus:	
Premium on common stock	2,500	Excess over the stated value of common stock	2,500
Retained earnings	25,000	Retained earnings	25,000
Total Stockholders' Equity	$77,500	Total Stockholders' Equity	$77,500

A discount on the sale of par value stock may be shown as a deduction from the par value of the stock outstanding or as a deduction under "surplus."

Some accountants show a premium on stock, a discount on stock, and an excess over stated value of no-par value stock as *separate* items in the "Stockholders' Equity" section of the balance sheet. Each item is

shown between "Capital Stock" and "Retained Earnings" and not listed under the heading of "Capital Stock" or "Surplus." Furthermore, the heading "Surplus" should not be used. This method is shown in the illustration of "Stockholders' Equity" on page 514.

Accounting for Treasury Stock

Treasury stock is a corporation's own stock that: (1) has been previously issued, fully paid for, (2) has been reacquired, and (3) has not been retired.

Treasury stock may be acquired either by donation or by purchase. If acquired by donation, a memorandum entry is made in a Treasury stock account explaining the circumstances of the donation and the number of shares received. When the balance sheet is prepared, the number of shares donated is stated parenthetically after the capital stock heading. The total amount shown for the stock outstanding is not changed.

Treasury stock may be acquired by purchase. Many states require that the corporation have sufficient retained earnings or "paid-in" capital that is not a part of the stated (legal) capital to cover the amount of the treasury stock purchased. The purpose of this restriction is to protect the interests of the creditors of the corporation. In other words, the assets of a corporation, to the extent contributed by the stockholders through their purchases of capital stock, in the main represents a pool of resources that the creditors may look to as a source of debt repayment. This is sometimes referred to as the *legal capital of a corporation.* The legal capital may also be defined as that part of the paid-in capital that is by law or corporate resolution the stated capital, and as such it is restricted as a source of dividends.

Two further observations are made regarding treasury stock. One is that treasury stock is not generally considered by accountants as an asset. Another is that par value treasury stock may commonly be sold below par value without the discount liability attaching to the sale.

The following transactions illustrate the foregoing points:

July 1—
100 shares of the 1,000 shares authorized and outstanding of par value stock are *donated* to the corporation for the purpose of establishing an employee scholarship fund. This requires only a memorandum in the Treasury Stock account.

August 1—
100 shares are purchased from a stockholder at $110 per share.

Treasury stock	11,000	
Cash		11,000

Note: The company in this example is assumed to have $40,000 in retained earnings prior to the acquisition of the treasury stock. As this is sufficient to offset the cost of the treasury stock, the legal capital of the corporation is thereby not impaired.

Sept. 1—
The 100 shares of treasury stock that were donated are sold at $95 per share.

Cash	9,500	
Donated capital from treasury stock		9,500

Oct. 1—
Sold 100 shares of treasury stock that were purchased at $110 for $112 per share.

Cash	11,200	
Treasury stock		11,000
Excess of proceeds over cost of treasury stock		200

A balance sheet presentation of treasury stock, based on the foregoing entries *to August 1* appears below:

Stockholders' Equity:	
Capital stock common, authorized 1,000 shares, $100 par value, of which 200 shares have been reacquired and are held as treasury stock.	$100,000
Premium on common stock	5,000
Retained earnings (subject to the treasury stock restriction below).	40,000
Total	$145,000
Less: Cost of treasury stock	11,000
Total Stockholders' Equity	$134,000

If a balance sheet were prepared on October 1, after the sale of the treasury stock, the only new point to consider is the position of the account, "Excess of Proceeds Over Cost of Treasury Stock." This account should be presented on the balance sheet in the same manner as the Premium on Stock account. If the cost of the treasury stock exceeds the proceeds from its sale, an account "Excess of Cost Over Proceeds from Treasury Stock" may be debited. This excess may be shown in the same manner as the Discount on Stock account. If there is no contributed capital in excess of the legal capital for that class of stock, some accountants debit the excess to the Retained Earnings account.

The cost method of recording treasury stock, as presented above, is commonly followed. Other methods of recording treasury stock are not within the scope of this text.

Changes in Capitalization

A corporation may change its form and amount of capitalization by calling in its outstanding stock and issuing new certificates. This may change the form but not the amount of capitalization; or the amount may change as well as the form. The following example illustrates one kind of a change. Corporation transactions of this nature usually require the approval of the board of directors and stockholders in a formal meeting.

Example In order to increase the number of shares outstanding, a corporation may split its stock issue on some proportionate basis, such as 2 new shares for 1 old share. The entry is:

Capital stock common (100 par value)	100,000	
Capital stock common ($50 par value)		100,000
Explanation: To record the cancellation of 1,000 shares of $100 par value stock and the issuance of 2,000 shares of $50 par value on a 2-for-1 split.		

Balance Sheet Presentation Involving More than One Class of Stock The accounting entries for preferred stock are the same as those illustrated in this chapter for common stock. However, when there is more than one class of stock authorized, the account titles should designate the class of each stock. In the following transactions, two classes of stock are authorized, partially subscribed to, and paid for.

1. *Authorized issue* (memorandum entry): A corporation is authorized to issue 1,000 shares of $100 par value common stock, and 500 shares of $100 par value preferred stock.
2. *Subscriptions are received* to 800 shares of common stock at $102 per share and 400 shares of preferred stock at par value.

Subscriptions receivable common stock	81,600	
Subscriptions receivable preferred stock	40,000	
Common stock subscribed		80,000
Premium on common stock		1,600
Preferred stock subscribed		40,000

3. *Payments are received as follows:* Common stock $50,400, of which $20,400 is payment in full for 200 shares. Preferred stock $30,000, of which $20,000 is payment in full for 200 shares.

Cash	50,400	
Subscriptions receivable common stock		50,400
Cash	30,000	
Subscriptions receivable preferred stock		30,000

4. Stock certificates are issued for the 200 shares of common stock and the 200 shares of preferred stock paid in full.

Common stock subscribed	20,000	
Preferred stock subscribed	20,000	
Capital stock authorized—Common		20,000
Capital stock authorized—Preferred		20,000

The general ledger appears as follows after posting the foregoing entries:

Cash	
(3) 50,400	
(3) 30,000	

Common Stock Subscribed	
(4) 20,000	(2) 80,000

Subscriptions Receivable Common Stock	
(2) 81,600	(3) 50,400

Preferred Stock Subscribed	
(4) 20,000	(2) 40,000

Subscriptions Receivable Preferred Stock	
(2) 40,000	(3) 30,000

Premium on Common Stock	
	(2) 1,600

Capital Stock Authorized Common	
(1) Authorized shares of stock.	issue 1,000 $100 par value
	(4) 20,000

Capital Stock Authorized Preferred	
(1) Authorized shares of stock.	issue 500 $100 par value
	(4) 20,000

TRIAL BALANCE

Cash	80,400	
Subscriptions receivable common stock	31,200	
Subscriptions receivable preferred stock	10,000	
Common stock subscribed		60,000
Preferred stock subscribed		20,000
Premium on common stock		1,600
Capital stock authorized common		20,000
Capital stock authorized preferred		20,000
	121,600	121,600

BALANCE SHEET
July 1, 19—

Assets

Current Assets:		
Cash	$80,400	
Subscriptions receivable common stock	31,200	
Subscriptions receivable preferred stock	10,000	
Total Assets:		$121,600

Stockholders' Equity		
Contributed Capital:		
Common stock, $100 par value, 1,000 shares authorized, of which 200 shares are issued and outstanding.	$20,000	
Common stock subscribed, 600 shares	60,000	
Premium on common stock	1,600	
Total Common Stock		$81,600
Preferred stock, $100 par value, 500 shares authorized, of which 200 shares are issued and outstanding.	$20,000	
Preferred stock subscribed, 200 shares	20,000	
Total Preferred Stock		40,000
Total Stockholders' Equity		$121,600

SURPLUS

Nature of "Surplus"

The term "surplus" is a generic term often used to describe the excess of the assets over the liabilities and capital stock. Despite its frequent use in the accounting statements and reports for many years, the term "surplus" has been misunderstood by stockholders and other users of financial statements. For instance, persons not trained in accounting often associate the term "surplus" with a fund. A fund, of course, is an asset, while "surplus" is a part of the owners' equity of a corporation and therefore a credit. Another misunderstanding over the use of the term "surplus" is its content. In addition to being credited with periodic net income or charged with a net loss, surplus has been credited with gains and losses arising from a corporation's dealing in its own stock, i.e., sale of unissued stock at a premium, or at an excess over stated value, or the sale of treasury stock. These transactions are unrelated. For these reasons, the accounting profession has recommended that the use of the term "surplus" be discontinued in the accounts and in the financial statements and reports.[2]

Certain transactions in this chapter, such as the premium on the sale of par value stock and the excess paid in over the stated value of no-par value stock, may be classified as contributed capital, or, as separate items under Stockholders' Equity. Some accountants classify these items as *paid-in surplus*. The accounting profession is slowly beginning to reclassify them from a "surplus" or a "paid-in surplus" classification to a

[2] *Accounting Terminology Bulletin Number 1,* "Review and Résumé," published by American Institute of Certified Public Accountants, New York, 1953, pp. 28–32.

classification of contributed capital, as illustrated on page 512,[3] or to list them separately, as illustrated on page 514.

There are two classes of "surplus" that are essentially distinct from the *contributed capital* of a corporation. The trend is to show these items as distinct classes of the stockholders' equity, following the items that make up the contributed capital:

1. Retained earnings: (a) Appropriated. (b) Unappropriated.
2. Appreciation in the stockholders' equity as a result of an appraisal of the company's fixed assets.

Nature of Retained Earnings The Retained Earnings account is properly credited with the balance of the Income Summary account at the close of the fiscal year. The Retained Earnings account is charged with distributions of earnings to the stockholders in the form of dividends and with appropriations or restrictions placed upon the use of the retained earnings by the board of directors. However, there are two classes of transactions affecting retained earnings concerning which there is a difference of opinion among accountants as to the proper presentation.

1. Material gains or losses of an extraneous, or non-recurring nature.
2. Corrections of prior years' net income.

The point of disagreement is whether these transactions should be transferred first to the Income Summary account and then to the Retained Earnings, or to close them directly to the Retained Earnings account. Accountants who subscribe to the *Current Operating Performance Concept* of income recommend that *material* charges or credits related to prior years and *unusual* gains or losses of a *significant* amount be excluded from the determination of the current year's net income and be shown in the statement of retained earnings.

Other accountants recommend that these transactions be added or deducted in the Income Statement in determining the periodic net income. Proponents of this form of presentation follow the *All-Inclusive Income Statement Concept.*

Three examples that illustrate these major points of difference appear below:

1. Corrections of a prior year's net income as the result of an additional assessment of income tax due to an error in the computation of the tax.

2. An extraneous gain arises when a company retires a bond issue before maturity, and there is an unamortized bond premium balance. For example, a bond is sold by a company at 110. The total par value of the bond issue is $100,000. The bonds are term bonds maturing in 10 years,

[3] *Accounting Trends and Techniques in Published Corporate Annual Reports,* 15th ed., published by American Institute of Certified Public Accountants, New York, 1961, pp. 199–230.

but are retired in five years. As a result there is an unamortized balance in the bond premium account of $5,000. (For further details, see Chapter 21.)

3. An extraneous loss arises when a fire loss occurs. In this case, it is assumed that the property damage is $20,000 and the recovery from the insurance company, $10,000, or a net loss due to the fire of $10,000.

A financial statement presentation of the foregoing examples in accordance with the current operating performance concept and the all-inclusive income concept appears on page 520.

Appropriated Retained Earnings The board of directors may decide that all or a portion of the retained earnings should be restricted or appropriated and so will not be available for dividends. The bond indenture may require that retained earnings be restricted to insure that future earnings will be available to cover an annual deposit into a sinking fund. As explained in Chapter 21, this requirement may result in a periodic entry debiting the Retained Earnings account and crediting a Sinking Fund Reserve account. Another example of an appropriation of retained earnings is the restriction placed upon retained earnings when treasury stock is acquired.

Appreciation in the Stockholders' Equity If the replacement cost of fixed assets has increased substantially, as borne out by a reliable appraisal, some companies have adjusted their accounts by the amount of the appraisal increase over the cost. The result is an increase in the book value of the assets and the stockholders' equity. The facts concerning the adjustment should be carefully presented on the balance sheet. Such an increase in the stockholders' equity should be set forth separately in the stockholders' equity section of the balance sheet. To avoid the accounting complexities caused by such an adjustment in the accounts, most companies merely refer to the results of the appraisal in a separate report attached to the balance sheet or by the use of a footnote. This is a complicated subject and is believed to be outside the scope of this text. Reference to the problem, however, is necessary to complete the description of the different classes of the stockholders' equity as they appear in financial reports.

Dividends

Dividends are a pro rata distribution to the stockholders of a portion of the retained earnings. Some states permit a dividend payment from "paid-in surplus" under certain conditions. Some states also permit a dividend payment from current earnings even though the corporation has a deficit. The amount and the date of payment of a dividend is determined by the board of directors in formal meeting.

CURRENT OPERATING PERFORMANCE CONCEPT OF INCOME

Exhibit C

Income Statement
Year Ended December 31, 19—

Revenue (details omitted)		$200,000
Cost of Sales and Other Expenses (details omitted)		180,000
Net Income from Operations		$ 20,000
Federal income tax (assumed rate 30%)		4,500 *
Net Income		$ 15,500

Exhibit B

Statement of Retained Earnings
Year Ended December 31, 19—

Balance, January 1, 19—		$ 25,000
Correction of prior year's profits:		
Additional assessment of income tax		5,000
Adjusted balance, January 1, 19—		$ 20,000
Net Income (Exhibit C)		15,500
		$ 35,500
Non-recurring gains and losses:		
Balance of unamortized premium on bonds retired		5,000
		$ 40,500
Deduct: Fire loss	$20,000	
Insurance recovery	10,000	10,000
Balance, December 31, 19—		$ 30,500 †

ALL-INCLUSIVE INCOME CONCEPT

Exhibit C

Income Statement
Year Ended December 31, 19—

Revenue (details omitted)		$200,000	
Cost of Sales and Other Expenses (details omitted)		180,000	
Net Income from Operations			$20,000
Non-Recurring gains and losses:			
Add: Balance of unamortized premium on bonds retired		$ 5,000	
Fire loss recovery		10,000	
		$ 15,000	
Deduct: Additional assessment of income tax on prior year's net income	$ 5,000		
Fire loss	20,000	25,000	10,000
Total Corporate Net Income before provision for income tax			$10,000
Less: Federal income tax (30%)			4,500 *
Net Income			$ 5,500

Exhibit B

Statement of Retained Earnings
Year Ended December 31, 19—

Balance, January 1, 19—	$25,000
Net Income (Exhibit C)	5,500
Balance, December 31, 19—	$30,500 †

* The determination of the current year's income tax, $4,500, is based on the net income from operations, plus/minus the non-recurring gains and losses, or $15,000 × 30%. To facilitate the above comparison, the income tax has been shown in the same manner under both concepts. Recent developments in accounting theory, however, suggest an allocation of the income tax ($4,500) between the tax on the current year's net operating income ($20,000) and the extraneous taxable transactions ($10,000—$5,000). (Cf. advanced accounting texts for further explanation.)

† The balance of retained earnings at December 31, 19— is the same under both procedures.

A dividend may take different forms, such as:

1. Cash dividend.
2. Property, other than cash dividend.
3. Liquidating dividend.
4. Stock dividend.

While some states permit the board to declare a dividend from "paid-in surplus," as well as retained earnings, most accountants generally recommend that the declaration of a dividend be restricted to retained earnings. This is particularly so when a dividend is paid in cash or some other asset. As the assets are being reduced by the amount of the dividend, the total of the stockholders' equity is also reduced. As long as the amount of the reduction is limited to the extent of the retained earnings, there is no impairment of the capital of the corporation, i.e., the legal capital is not affected. It is therefore not the usual practice for a corporate board of directors to declare a cash or property dividend from the amount of the contributed or stated capital of a corporation, unless the dividend is approved by the stockholders and meets the conditions required by statute.

When a dividend is declared, a current liability is credited. An exception is a stock dividend that creates no obligation on the part of the corporation except to issue previously authorized but unissued capital stock. In the case of the cash dividend, the following journal entry is made on the date of declaration:

Dividends	10,000	
Dividends payable		10,000

Explanation: To record a cash dividend of $10,000 payable January 2, to stockholders of record of December 31. (If there are 1,000 shares outstanding with a par value of $100 per share, the rate of dividend is 10%, i.e., $10,000 ÷ $100,000. If there are 10,000 shares of no-par value stock outstanding having a total paid-in value of $100,000, the rate of dividend is $1 per share, i.e., $10,000 ÷ 10,000 shares.)

If the books of the corporation are closed on December 31, the Dividends account is closed into the Retained Earnings account; the Dividends Payable account appears on the balance sheet as a current liability. Many corporations deposit sufficient cash in a Special Dividend Bank account to meet the dividend payable in the same manner as the Payroll Bank account described in Chapter 20.

When a dividend is payable in assets, other than cash, the procedure is the same as explained above in connection with the cash dividend, except that a pro rata distribution may be difficult to accomplish. Marketable securities have been used as a form of property dividend.

A *liquidating dividend* is a return to the stockholders of a part or all of the investment in capital stock. Accountants refer to a liquidating

dividend as a "dividend out of capital" to distinguish it from a "dividend out of earnings." When such a dividend is declared, the following entry is made:

Capital dividend	10,000	
Dividend payable		10,000

Explanation: To record the declaration of a dividend representing a 10% return of the stockholders' investment. (In this example, it is assumed that the capital stock has been issued at par value, and there are no premium or paid-in surplus accounts.)

When the books are closed, the Capital Dividend account may be closed into the Capital Stock account, or it may remain open and appear on the balance sheet as a reduction of the capital stock outstanding. This latter procedure is recommended, because it shows the reader what has transpired with respect to the capital stock. A legal opinion should be sought before a liquidating dividend is declared, as explained previously in the explanation of legal capital.

Accounting for a Stock Dividend In terms of the definition of a dividend given on page 519, a dividend payable in previously unissued capital stock is not a liability. When a stock dividend is declared, there is no liability created, in the sense of an obligation to disburse working capital or any other asset. Instead, a stock dividend is an obligation on the part of the corporation to transfer retained earnings in the amount of the dividend to the capital stock amount. Some states even allow a corporation to distribute shares of unissued stock out of "paid-in surplus," such as a premium on stock, which they would not allow to be used as a source of a cash dividend. In any case, however, the corporation must have available a sufficient amount of authorized stock. For example, the board of directors passed the following resolution:

Dec. 1:
The board of directors declared a 10% stock dividend on $100,000 of outstanding capital stock, equivalent to additional par value stock of $10,000 to stockholders to record on December 31. There are 500 shares of authorized $100 par value common shares available for distribution.

As stated in the above example, there are presently outstanding 1,000 shares of stock with a par value of $100. Each holder of one share of outstanding stock will therefore receive a *warrant* for $\frac{1}{10}$ of a share of new stock. If a stockholder owns 10 shares of stock, he will receive one share of new stock. A stockholder owning less than 10 shares will not receive a fractional stock certificate because the par value of the stock is $100 and par value shares cannot be issued in fractional amounts. However, he can pay the difference between the par value of one share and

the amount of the fractional warrants received and receive a full share of stock. This amount may be paid to the corporation or, as it often happens, the fractional warrant may be traded on the stock exchange.

If the books are closed before the stock certificates are issued for the stock dividend of $10,000, in this example, a balance sheet prepared at the close of the fiscal year should set forth the details of the stock dividend in the following manner:

Stockholders' Equity:		
Contributed capital:		
Capital stock common, authorized 1,500 shares of $100 par value stock, of which 1,000 shares are issued and outstanding; and 100 shares are restricted for the issuance of a 10% stock dividend.		$100,000
Retained earnings:		
Appropriated for distribution of a stock dividend	$10,000	
Balance of retained earnings	30,000	40,000
Total Stockholders' Equity		$140,000

When the stock dividend certificates are issued to the stockholders, the following entry is made:

Retained earnings	10,000	
Capital stock authorized		10,000

Explanation: To record the transfer of retained earnings amounting to 10% of the outstanding par value capital stock of $100,000 to the capital stock account as represented by the issuance of 100 shares of stock, or 1 new share for every 10 held.

In the above illustration the amount of retained earnings transferred to capital stock was equivalent to the par value of the shares issued. A stockholder receiving a stock dividend can assume that each share received has a fair market value of $100, or equivalent to the value transferred by the board of directors to capital stock. However if the stock has a fair market value greater than $100, say $115 per share, the stockholders can assume that the shares they received as a stock dividend are equivalent to $11,500 of retained earnings, i.e., $115 × 100 shares.

The entry for the dividend declaration and the issue of the stock under these conditions is:

Retained earnings	11,500	
Capital stock authorized		10,000
Premium on common stock		1,500

Explanation: To record a stock dividend of 10% or 100 shares. The board of directors has resolved to capitalize $115 as the fair market value of the stock dividend.

It is important to note that a stock dividend does not affect or change the *total* of the stockholders' equity, but it does change the *book value per*

share of stock outstanding. Using the figures in the preceding example, the following is a computation of the book value per share of outstanding stock before and after the declaration of the stock dividend:

BEFORE THE DECLARATION OF THE STOCK DIVIDEND	AFTER THE DECLARATION OF THE STOCK DIVIDEND
$\text{Book value per share} = \frac{\$140{,}000}{1{,}000 \text{ shares}}$	$\text{Book value per share} = \frac{\$140{,}000}{1{,}100 \text{ shares}}$
$= \$140$ per share	$= \$127.27$ per share

Dividend on Preferred Stock Dividends on preferred stock are recorded in the same manner as on common stock, as illustrated in the foregoing examples. There is one significant point to be made, however, when preferred stock outstanding is cumulative, and there are dividends in arrears. In this case the amount of dividends in arrears should be noted in a footnote to the balance sheet. It is particularly important to the common stockholders to know that there will be no dividend paid on the common stock as long as there are preferred stock dividends in arrears.

QUESTIONS

1. What are the differences between the stockholders' equity and a partnership capital?
2. List the principal steps in the accounting for an original issue of capital stock.
3. Indicate the proper order of entry for the following transactions and explain the purpose of each entry.
   (a) Cash
       Subscription receivable
   (b) Capital stock subscribed
       Unissued capital stock
   (c) Unissued capital stock
       Capital stock authorized
   (d) Subscription receivable
       Capital stock subscribed
4. Indicate whether the following accounts normally have a debit or credit balance and where they appear on the balance sheet:
   (a) Unissued capital stock.
   (b) Capital stock subscribed.
   (c) Subscriptions receivable.
   (d) Retained earnings.
   (e) Excess over stated value.
   (f) Treasury stock.
   (g) Donated capital from treasury stock.
   (h) Capital stock authorized.
   (i) Premium on capital stock.
   (j) Dividends.
5. In what ways does the accounting for no-par stock differ from par value stock?
6. What is the difference between (a) contributed capital, (b) invested capital, and (c) legal capital?

7. What are the characteristics of treasury stock? How does treasury stock differ from unissued stock?
8. What purpose would a Reserve for Treasury Stock account serve?
9. What is the nature of the excess of the cost of treasury stock over par value? The excess of selling price of treasury stock over the cost of treasury stock?
10. How does "surplus" differ from retained earnings?
11. What is the nature of paid-in surplus? Give some examples of transactions that may be classified as paid-in surplus.
12. What is the essential difference between the "current operating performance concept of income" and the "all-inclusive income concept"?
13. (a) Define dividends. (b) What is the distinction between a declared cash dividend and a declared stock dividend?

PROBLEMS

Problem 23-1

The Waloon Company is organized on July 1, 19—. It is authorized to issue 2,000 shares, $100 par value common stock. The following transaction occurred:

July 1—1,500 shares subscribed to at 103.
July 6—500 shares subscribed to at 105.
July 15—The July 1 subscription is collected in full and certificates issued.
July 18—Of the July 6 subscription, 300 shares are paid in full and the certificates issued; 50% was paid on the other 200 shares.

Required:

(A) Journalize the above transactions with complete explanations.
(B) Prepare a trial balance of the general ledger, July 31.
(C) Prepare a classified balance sheet as of July 31.

Problem 23-2

A corporate charter is received on September 1, 19— from the State by the Sawyer Company authorizing it to issue 100,000 shares of no-par value common stock. During the month of September, the following transactions took place:

1 The board of directors voted to establish a stated value of $10 per share.
2 Subscriptions are received for 90,000 shares at $11.
3 Payments are received for 50,000 shares and certificates are issued.
4 The balance of the authorized stock is subscribed to at $12.
10 Payments in full are received for 30,000 shares subscribed to at $11; and 5,000 shares subscribed to at 12. The certificates are issued.
20 A subscriber to 1,000 shares @ $11 has asked the company to release him from his obligation. The board of directors approved the cancellation of the subscriptions.

Required:

(A) Journalize the foregoing transactions.
(B) Prepare a trial balance at September 30.

(C) Prepare a balance sheet as at September 30.
(D) What is the book value per share of stock?

Problem 23-3

Given the following statement:

FANGLOW COMPANY
Balance Sheet
June 30, 19—

Assets (details omitted)		Stockholders' Equity:	
		Capital stock common, $100 par value, 5,000 shares authorized, 4,000 shares issued	$400,000
		Premium on common stock	8,000
		Retained earnings	50,000
Total Assets	$458,000	Total Stockholders' Equity	$458,000

On July 1, the board of directors approved the acquisition of 50 shares of the company's own stock at $120 per share, to be held in the treasury.

Required:

(A) Journalize the entry for the stock acquisition following the cost method.
(B) Prepare the stockholders' section of the balance sheet as of July 1 following the cost value method used in the stock acquisition.

Problem 23-4

From the following information taken from the Annual Report of the M-J Company Inc., and its subsidiaries, at December 31, 1962, prepare:

(A) A statement of income and retained earnings for the year ended December 31, 1962, following the current operating performance concept.
(B) Compute the book value of the preferred and common stocks at December 31, 1962.

Income from Sales	$24,355,000
Cost of Sales	13,156,000
Other Income	145,000
Other Expenses	244,000
Expenses of selling, administration, etc.	7,496,000
Provision for Federal income taxes	1,532,000
Provision for State and foreign taxes	26,000
Adjustment resulting from translating the accounts of foreign subsidiaries into United States dollars for the purpose of consolidation, a credit of	46,000
Retained earnings, January 1, 1962	11,509,000
Dividends on preferred stock $.04 per share.	
Dividends on common stock $.80 per share.	
Preferred stock—Par value $1 per share; 4% cumulative, authorized 2,000,000 shares; issued and outstanding 1,700,000 shares.	
Common stock—Par value $1 per share; authorized 3,000,000 shares; issued and outstanding 1,650,000 shares.	

Problem 23-5

A corporation has outstanding 1,000 shares of $100 par value stock out of an authorized issue of 2,000 shares. On June 15, the board of directors declared a 15% stock dividend, payable to stockholders of record on July 1. As of the date of the declaration of the dividend, the company has retained earnings of $25,000. The market value of the stock on June 15 is $130 per share.

Required:

(A) A statement of the resolution of the board of directors on June 15, for the declaration of the dividend, giving effect to the market value of the stock.
(B) The stockholders' equity section of the balance sheet as of June 30, 19—.
(C) The entry on July 1 to record the issue of stock to cover the stock dividend.
(D) The book value per share of stock as of June 15 and as of July 1.

Problem 23-6

The stockholders' equity section of the balance sheet of the Bigar Co. as of June 30, 19— is set forth below:

BIGAR CO.
Partial Balance Sheet
June 30, 19—

Stockholders' Equity:	
Preferred stock, 5%, $100 par value, 500 shares authorized and outstanding	$ 50,000
Common stock, no-par value, 10,000 shares authorized and outstanding, with a stated value of $10 per share	100,000
Surplus	75,750
Total	$225,750

An analysis of the "Surplus" revealed that it consisted of:

Donated capital from treasury stock common	$ 5,000
Premium on preferred stock	5,750
Excess over stated value of no-par common stock	10,000
Allowance for doubtful accounts	15,000
Allowance for decline in the value of inventory	8,000
Excess over cost from the sale of treasury stock common	2,000
Undivided profits	30,000
	$75,750

Among the current liabilities were the following:

Sinking fund reserve	$20,000
Reserve for contingencies	20,000

Required:

(A) Recast the stockholders' equity section of the balance sheet in accordance with the recommendations expressed in the text.

(B) Indicate the balance sheet classifications of any accounts mentioned above that do not appear in the stockholders' equity sections of the balance sheet.

Problem 23-7

A company was organized and authorized to issue 20,000 shares of no-par common stock. Record the following entries:

1. Authorized issue sold for $12 per share.
2. Five years later, during which time retained earnings of $115,000 were recorded, the board of directors declared a 20% stock dividend.
3. Ten years later, during which time the company earned an additional $200,000, and paid $100,000 in dividends, the board of directors with the approval of the stockholders issued two new stock certificates for each certificate outstanding.
4. Prepare the owners' equity section of the company's balance sheet at the end of the tenth year.

SUPPLEMENTARY PROBLEMS

Problem 23-8

Given below is the stockholders' equity section of a company's balance sheet:

Stockholders' Equity:	
Capital Stock:	
Preferred, par value $100	$200,000
Common, par value $100	400,000
Retained earnings	125,000
Total	$725,000

Required:

(A) Compute the book value per share of each class of stock. There are no dividends in arrears.
  (1) Assuming the preferred is participating up to 6%.
  (2) Assuming the preferred is non-participating.

(Form 3)

Problem 23-9

The ROHCO Company was authorized to issue 2,000 shares of 5% cumulative preferred stock having a par value of $100, and 10,000 shares of $25 par value common stock. The following subscriptions are received on August 1, 19—.

Preferred	
Black	1,000 shares @ $105
Brown	500 shares @ $105
Bishop	500 shares @ $105
Common	
Black	2,000 shares @ $ 25
Brown	2,000 shares @ $ 25
Bishop	2,000 shares @ $ 25
Ball	2,000 shares @ $ 25

Note: record entries for subscriptions in total.

On August 10, 19– payments received from the subscribers as follows:

Black–Inventory valued at $60,000; Cash for $95,000.
Brown–Machinery and equipment valued at $102,500.
Bishop–Land valued at $30,000, a building valued at $120,000, less a mortgage assumed by the company of $47,500.
Ball–Patents costing $50,000.

On August 29, attorney's fees and other expenses to organize the corporation were paid amounting to $1,500.

Required:

(A) Record the entries made on August 1 for the authorized issue and the subscriptions, and the entries on August 10 and 29.
(B) Prepare a classified balance sheet as of August 31, 19–.

(Forms 3, 8)

Problem 23-10

The following is the Stockholders' Equity section of the balance sheet prepared for the Trifid Co. as of June 30, 1962, the end of the company's fiscal year:

THE TRIFID CO.
Partial Balance Sheet
June 30, 1962

Preferred stock, 5% cumulative, 2,000 shares, $100 par value authorized and outstanding (Note 1)	$200,000
Common stock, 10,000 shares authorized, $50 par value, issued 10,000 shares of which 200 shares are being held as treasury stock.	500,000
Retained earnings	100,000
	$800,000
Less: Treasury stock common, 200 shares	15,000
Total Stockholders' Equity	$785,000

Note 1: Preferred stock is fully participating with dividends paid to June 30, 1960.

Further information:

On June 15, 1962, the board of directors declared a dividend of $61,750 payable July 1, 1962, to stockholders of record June 30, 1962.

Required:

(A) Prepare the journal entry made as of June 15, 1962, recording the dividend.
(B) Record the payment of the dividend in separate entries showing the amounts payable to both classes of stock.

(Form 3)

Problem 23-11

The following accounts appear on the post-closing trial balance of the Como Co. as of December 31, 19—.

Subscriptions receivable	$ 5,000
Unissued common stock	10,000
Authorized common stock	80,000
Treasury common stock	2,000
Dividends payable	4,000
Retained earnings	15,000
Gain on sale of treasury stock	200
Capital stock subscribed	8,000
Premium on stock	300

Required:

Prepare the Stockholders' Equity section of the balance sheet as of December 31, 19—. The stock has a par value of $100 per share.

(Form 8)

24

Accounting for Partnerships

Nature of the Partnership

"A partnership is an association of two or more persons to carry on as co-owners a business for profit." [1] Unlike the corporation, which is an association of individuals to form an artificial person or corporate entity, the partnership is a group of individuals who have voluntarily formed an *association as co-owners* for the purpose of making a profit. Legally, however, for some purposes, a partnership may be treated as a separate entity distinct from the partners. For example, in some states, a partnership can sue or be sued in the firm name. For most purposes, though, and particularly from an accounting point of view, the partnership form of business enterprise is an association of individuals.

A significant feature of the partnership relationship is that generally each partner is an agent for the other partners, within the scope of the partnership business, as well as an agent for the partnership. Generally, a partner has unlimited liability, as distinguished from a stockholder whose risk is generally limited to his investment. An example of the effect of this relationship is to be found in the case of a dissolution and liquidation of a partnership. In the event of a liquidation, a partner incurs the risk of losing not only his own investment, but he may incur further liability if his partners' investments are insufficient to meet their shares of any losses that may have been suffered by the partnership. The legal and accounting effects of a liquidation are explained on page 548.

[1] Uniform Partnership Act, Part 11, Section 6.

Organization of a Partnership

The partnership association is based on a contract entered into by the partners. The contract may be an informal oral agreement, or it may be a detailed written agreement; but properly entered into, the agreement is binding upon the partners regardless of the form of the contract. Because of the extent of the liability imposed upon the partners and the close personal relationship that exists among the partners, it is strongly recommended that a partnership agreement be prepared in writing by an attorney. The following are some of the main features in a partnership agreement: [2]

1. The name of the partnership. The name of a partnership usually consists of the names of the individual partners. A law firm, for example, or a firm of certified public accountants, can legally operate in some states only as a partnership.[3] Consequently, the names of the partners usually make up a professional partnership title. Some commercial enterprises doing business as a partnership may sometimes take on an assumed name. For example, Frank Smith and Henry Ames may do business under the assumed name of The Atlar Store. To do so, however, permission may be required by the jurisdiction in which the business is conducted. An accountant preparing financial statements for a partnership with an assumed name should properly head each of the exhibits that comprise the financial report, for example as, "Frank Smith and Henry Ames, d/b/a [4] The Atlar Store."

2. The purpose or purposes of the partnership.

3. The method by which the partnership profits or losses are to be divided.

4. The closing date of the partnership's fiscal year.

5. Provisions for withdrawals and loans between the partners and the partnership.

6. The amount of each partner's capital contribution.

7. Provision for partners' salaries and interest on their capital contributions, providing the partners agree that services should be reimbursed and interest, if any, allowed on capital contributed. This provision is an important one to be considered in the partnership agreement. The Uniform Partnership Act (Sec. 700) provides, for example, that a partner

[2] A partnership agreement must be in writing if it comes within the provisions of the Statute of Frauds, requiring a contract which cannot be performed within one year to be in writing.

[3] Effective September 1, 1961, all professional persons are permitted to incorporate in the state of Florida. (H32161 1. '61)

[4] d/b/a is the abbreviation for "doing business as."

who carries the full load of the business during his partner's absence because of illness is not entitled to additional compensation where there was no agreement to provide for compensation for services.

8. Provision for determining the amount of a partner's capital account balance in the event of his death, particularly when a partner dies or withdraws from the partnership during the fiscal year.

Accounting Problems of a Partnership

As in the case of the corporate form of business enterprise, discussed in Chapters 22 and 23, the distinctive accounting problems of a partnership are related principally to the owners' equity accounts and the financial relationships of the partners with the enterprise.

The partnership problems to which reference is made in the following paragraphs are:

1. Admission of a new partner.
2. The death or retirement of a partner.
3. The distribution of the partnership profits or losses among the partners.
4. The dissolution and liquidation of a partnership.
5. The incorporation of a partnership.

Admission of a Partner

When an individual is admitted to a partnership, a new partnership is formed. This necessitates the preparation of a new agreement between the members of the old partnership and the new partner.[5] At the time of the formation of the new partnership, an inventory should be taken, the books should be properly adjusted and closed, and the equity of each of the partners determined. Many problems can arise if these precautions are not observed. For instance, consider what may happen if the books are closed before all proper adjustments are made, and an account receivable of the old firm proves to be uncollectible. If no allowance has been previously made for bad debts, a new partner may seriously question whether he should be charged with a portion of the bad debt. Also a failure of the old partnership to accrue revenue will cause complications when the revenue is received by the new firm. Should the new partner share in the revenue received by the new firm but earned by the old firm? To what extent is a new partner liable for the debts of the old partner-

[5] The division of the profits and losses in a new partnership will be in accordance with the new agreement.

ship? The statutes hold that a new partner is liable for debts incurred prior to his admission, but only to the extent of his capital contribution.[6] These and many other problems can be resolved if foresight is observed in adjusting the books before the new partnership is formed.

From an accounting standpoint, there are two principal conditions under which a partner may be admitted to a partnership. An individual may be admitted by: (1) *Purchasing an interest* from a partner or partners, or (2) *Making an investment* in the partnership.

Under the first condition, the total assets of the partnership and therefore the total owners' equity of the partnership usually remain the same. Under the second condition, the total assets of the partnership are increased by at least the amount of the additional investment made by the incoming partner. These two conditions are illustrated in the following cases.

By Purchase of an Interest In each of the following cases, it is assumed that A has an investment or a capital account of $10,000 and, B, $12,000. A and B have been sharing profits and losses 50–50. C purchases an interest in the partnership under varying conditions:

Case 1 C purchases A's interest for $10,000, and a new partnership is formed between B and C. As the amount paid by C is not invested in the partnership but is paid directly to A, the only entry on the partnership books is to transfer A's interest to C. There is no gain or loss to A in this case. The entry to admit C is:

A Capital	10,000	
C Capital		10,000

A tabulation of the partners' capital account balances showing the effect of the admission of C appears below:

	A Capital	B Capital	C Capital	Total Capitals
Capital account balances prior to the admission of C	$10,000	$12,000		$22,000
Entry to admit C	(10,000)		10,000	
New partnership capital account balances	–0–	$12,000	$10,000	$22,000

Case 2 C purchases a one-half interest from A for $5,000 and a one-half interest from B for $6,000. As in the previous case, there is no gain or loss to A or B because the amounts received by A and B are equal to one-half of the book values sold to C.

[6] Uniform Partnership Act, Section 159. This Act has been adopted by many states.

The entry to admit C is:

A Capital	5,000	
B Capital	6,000	
C Capital		11,000

The results are tabulated below:

	A Capital	B Capital	C Capital	Total Capitals
Capital account balances prior to the admission of C	$10,000	$12,000		$22,000
Entry to admit C	(5,000)	(6,000)	$11,000	
New partnership capital account balances	$ 5,000	$ 6,000	$11,000	$22,000

Case 3a C purchases a one-half interest for $12,000 from A and B. In this case, C is presumed to be paying a bonus to A and B of $1,000. This is the excess over the $11,000, or one-half interest he is purchasing. The entry to admit C is the same as illustrated in Case 2. In addition, A and B have a personal gain of $500 each, according to the profit-sharing ratio of 50–50. A receives $5,500, and B receives $6,500.

Case 3b In this case, the basic facts are the same as Case 3a. However, it is agreed by the partners that the $12,000 that C is paying to A and B *is equivalent to one-half of the value of the partnership.* This is not to be interpreted to mean 50% of $22,000, which is $11,000. Rather, the total value of the partnership is presumed to be $24,000 ($12,000 ÷ 50%). As this is more than the present capitals of $22,000, the assets and the partnership capital will have to be increased by $2,000 to be equivalent to $24,000. In other words, C, by paying $12,000 to A and B for a 50% share in the partnership which has a total book value of $22,000, is recognizing that the assets are worth $2,000 more than their value on the books. The additional $2,000 may represent goodwill or an increase in the value shown for certain assets already on the books. Specific assets should be increased in value only upon the basis of careful appraisal.

This case is an exception to the usual condition mentioned above that the purchase of an interest does not change the total of the assets. Therefore, before the entry to admit C is made, an adjusting entry is made revaluing the assets by a debit to a Goodwill account or a debit to a specific asset, depending upon the agreement made among the partners. (Note that the increase in the assets is divided between A and B in their profit and loss ratio: 50–50. As in Case 3a, A receives $5,500, and B receives $6,500.)

Goodwill (or other assets)	2,000	
A Capital		1,000
B Capital		1,000

The entry to admit C is then made:

A Capital	5,500	
B Capital	6,500	
C Capital		12,000

The results of these entries are tabulated below:

	Net Assets	A Capital	B Capital	C Capital	Total Capitals
Balances, before adjustments	$22,000	$10,000	$12,000		$22,000
Adjustment	2,000	1,000	1,000		2,000
	$24,000	$11,000	$13,000		$24,000
Entry to admit C		(5,500)	(6,500)	$12,000	
New partnership capital account balances	$24,000	$ 5,500	$ 6,500	$12,000	$24,000

Case 4a C purchases a one-half interest in the partnership for $10,000. This case poses the same problems of interpretation as the preceding Case 3b. In this case, C purchases a one-half interest in a partnership that has a total book value of $22,000, for $10,000. The $1,000 difference between the $11,000 (i.e., 50% of $22,000) interest bought and the $10,000 paid may be interpreted in one of two ways. It is either a bonus from A and B to C, or a revaluation of the assets of the partnership. If the $1,000 is interpreted as a bonus, then the entry to admit C is the same as Case 2. A and B have suffered a loss of $500 each. (A receives $4,500, and B receives $5,500.)

C is admitted to the partnership with the following entry:

A Capital	5,000	
B Capital	6,000	
C Capital		11,000

Case 4b If the $1,000 difference described in Case 4a is interpreted as a revaluation of the assets, it is presumed that the partners have agreed that a one-half interest costing $10,000 is equivalent to a 100% interest worth $20,000 (i.e., $10,000 ÷ 50%). The entry to admit C is preceded by an entry adjusting the assets to the agreed value of $20,000, a difference of $2,000 less than the present book value.

A Capital	1,000	
B Capital	1,000	
Assets (to be specified)		2,000

The entry to admit C is:

A Capital	4,500	
B Capital	5,500	
C Capital		10,000

The results are summarized as follows:

	Net Assets	A Capital	B Capital	C Capital	Total Capitals
Balances before adjustment	$22,000	$10,000	$12,000		$22,000
Adjustment	(2,000)	(1,000)	(1,000)		(2,000)
	$20,000	$ 9,000	$11,000		$20,000
Entry to admit C		(4,500)	(5,500)	$10,000	
New partnership capital account balances	$20,000	$ 4,500	$ 5,500	$10,000	$20,000

By Investment The preceding illustrations dealt with the first condition by which a new partner is admitted to a partnership, namely, through purchase. It is left now to consider the second condition—the admission of a partner through investment. The admission of a new partner through an investment increases the assets and the total of the partnership capital. The effect of this change is illustrated in the following cases. In each case, it is assumed that a partnership has a total capital of $22,000; A's capital is $10,000 and B's Capital is $12,000. The net assets are therefore $22,000.[7] C invests $8,000 in the partnership.

Case 1 C invests $8,000 and is credited with $8,000. The entry is:

Cash	8,000	
C Capital		8,000

The results are tabulated as follows:

	Net Assets	A Capital	B Capital	C Capital	Total Capitals
Account balances prior to the admission of C	$22,000	$10,000	$12,000		$22,000
C's investment	8,000			$ 8,000	8,000
New partnership capital account balances	$30,000	$10,000	$12,000	$ 8,000	$30,000

Case 2 C is engaged in business as a single proprietor and is earning higher than average profits in his business. He enters into a partner-

[7] In these cases, the net assets are assumed to be stated at their approximate current fair market values. In other cases, the assets may need to be revalued. Adjustments to market values are considered in the section, "Incorporation of a Partnership."

ship with A and B, investing $8,000. However, he is allowed a credit of $10,000 on the new partnership books. A and B agree that C's investment, his ability, and the profitable business he is bringing into the firm is worth $2,000 more to the partnership than the actual amount C is investing. In this transaction the $2,000 is considered payment for goodwill. (The $2,000 may be treated as a bonus to C. In this event, goodwill is not recorded—the $2,000 is debited to the capital accounts of A and B in their profit and loss ratio.) The entry to admit C is:

Cash (or other assets invested)	8,000	
Goodwill	2,000	
C Capital		10,000

The results are as follows:

	Net Assets	A Capital	B Capital	C Capital	Total Capitals
Account balances prior to the admission of C	$22,000	$10,000	$12,000		$22,000
C's investment (Cash and goodwill)	10,000			$10,000	10,000
New partnership capital account balances	$32,000	$10,000	$12,000	$10,000	$32,000

Case 3 In this case, it is assumed that C has had no experience in the type of business in which A and B are engaged. Therefore, A and B are willing to accept him as a partner with an investment of $8,000 if C is willing to be credited with a capital balance of only $6,000. The difference is a bonus C is paying to the partnership to be credited to A and B. Assuming that A and B share profits 50–50, the entry to admit C is:

Cash	8,000	
A Capital		1,000
B Capital		1,000
C Capital		6,000

The results are as follows:

	Net Assets	A Capital	B Capital	C Capital	Total Capitals
Account balances prior to the admission of C	$22,000	$10,000	$12,000		$22,000
C's investment	8,000	1,000	1,000	$ 6,000	8,000
New partnership capital account balances	$30,000	$11,000	$13,000	$ 6,000	$30,000

Case 4 C is admitted to the partnership with an investment of $8,000 that is presumed to be equal to 25% of the adjusted total of the partner-

ship capital of $32,000 ($8,000 ÷ 25%). As the total of the capital accounts, after C's investment of $8,000 is $30,000 (A, $10,000; B, $12,000; and C, $8,000), the additional $2,000 represents goodwill, recorded as follows:

Goodwill	2,000	
A Capital		1,000
B Capital		1,000

The entry to admit C is:

Cash	8,000	
C Capital		8,000

The following summarizes the results:

	Net Assets	A Capital	B Capital	C Capital	Total Capitals
Account balances prior to the admission of C	$22,000	$10,000	$12,000		$22,000
Adjustment	2,000	1,000	1,000		2,000
	$24,000	$11,000	$13,000		$24,000
C's investment	8,000			$ 8,000	8,000
New partnership capital account balances	$32,000	$11,000	$13,000	$ 8,000	$32,000

Distribution of Partnership Profits and Losses

Reference is made in the preceding illustrations to the effect of the existence of goodwill, experience, ability, and the amount of investment as factors in determining the partners' capital account balances. These factors, and others, such as the amount of time devoted to the business are often used as a basis for the division of profits among the partners. But the partnership agreement must provide for them specifically. If no specific arrangements are made for the division of profits, either orally or in writing, the Uniform Partnership Act prescribes that the profits and losses shall be divided equally. The amount of capital investment or services rendered then has no bearing upon the division of profits. Furthermore, unless there is an agreement to the contrary, losses are divided in the same manner as profits.

The following cases illustrate the basic features of partnership profit distribution: (The accounts shown below are the capital and drawing accounts of A and B at the end of the fiscal year, before the books are closed. The partnership net income is $20,000. No provision has been

made in the determination of the net income for salaries or any form of remuneration to the partners. In the illustrative entries that follow, the Income Summary account is closed directly into the partners' capital accounts. This procedure and an alternative procedure are described in Chapter 6.)

Illustration: Given the following accounts:

A Capital				B Capital			
		Jan. 1	10,000			Jan. 1	15,000
		Mar. 1	5,000			Jul. 1	6,000
		Oct. 1	3,000			Dec. 1	2,000

A Drawing				B Drawing			
May 1	4,000			Aug. 1	10,000		
Nov. 1	7,500						

Case 1 The net income of $20,000 is *divided equally.*

A—50%	$10,000
B—50%	10,000
Total	$20,000

The entry to close the Income Summary account is:

Income summary	20,000	
A Capital		10,000
B Capital		10,000

Case 2 The net income is divided in an *unequal ratio,* for example, 60–40.

A—60%	$12,000
B—40%	8,000
Total	$20,000

The entry to close the Income Summary account is:

Income summary	20,000	
A Capital		12,000
B Capital		8,000

Case 3 The net income is divided in the ratio of the *beginning of the year capital balances,* i.e.,

A Capital	$10,000	$\frac{2}{5}$ or 40%
B Capital	15,000	$\frac{3}{5}$ or 60%
	$25,000	$\frac{5}{5}$ 100%

The entry to close the Income Summary account is:

Income summary	20,000	
A Capital		8,000
B Capital		12,000

Case 4 The net income of $20,000 is divided in accordance with the *ratio of the ending capital balances.* In following this method, the partners should decide whether to take the drawing accounts into consideration in determining the ending capital balances. By deducting drawings from the ending capital account balances, the partner with the smallest drawing receives a relatively larger share of the net income. Such an arrangement may be justified in that it favors those partners who are willing to forego drawings during the year until the net income is determined. The partnership is assisted by having more cash to meet obligations. Assuming that the drawing accounts are subtracted from the capital account balances, the ratio is computed as follows:

	A	B	Total
Capital account balances	$18,000	$23,000	$41,000
Less: Drawing account balances	11,500	10,000	21,500
Year-end capital	$ 6,500	$13,000	$19,500
Ratio	$33\frac{1}{3}\%$	$66\frac{2}{3}\%$	100%

The entry to close the Income Summary account is:

Income summary	20,000	
A Capital		6,667
B Capital		13,333

Case 5 The net income is divided in accordance with the *ratio of the partners' average capital balances.* The average capital account balance of a partner is determined by tabulating the capital and drawing account debits and credits in chronological order. At each date, the accumulated debit or credit balance is multiplied by the number of months (or days) the balance remains unchanged. The product (number of months $\times$ the dollar balances) is divided by 12 (or 365) to reduce the yearly debits and credits to a monthly or daily average.

In using this method, the partners should distinguish between those drawings that a partner usually makes in anticipation of his share of the

net income and drawings that may be described as excessive, and therefore a reduction of his capital. The partners may establish a dollar amount of drawings that a partner may make periodically. These drawings are debited to the drawing account. Drawings over the agreed-upon amount are debited to the capital account. In the following illustration, it will be assumed that the total of A's and B's drawings are debits to their capital accounts. The following tabulations illustrate the computation of the average capital balances of A and B's accounts:

A

Date	Dr.	Cr.	(1) Balance	(2) Months	(3) = (1 × 2) Product
1/1		10,000	10,000	2	20,000
3/1		5,000	15,000	2	30,000
5/1	4,000		11,000	5	55,000
10/1		3,000	14,000	1	14,000
11/1	7,500		6,500	2	13,000
				12	132,000

$132,000 ÷ 12 = $11,000 (average capital)

B

Date	Dr.	Cr.	(1) Balance	(2) Months	(3) = (1 × 2) Product
1/1		15,000	15,000	6	90,000
7/1		6,000	21,000	1	21,000
8/1	10,000		11,000	4	44,000
12/1		2,000	13,000	1	13,000
				12	168,000

$168,000 ÷ 12 = $14,000 (average capital)

The ratio of the average capitals applied to the net income:

A	$11,000	44% or 11/25 × 20,000 =	$ 8,800
B	14,000	56% or 14/25 × 20,000 =	11,200
	$25,000	100%	$20,000

The entry to close the Income Summary account is:

Income summary	20,000	
A Capital		8,800
B Capital		11,200

Case 6 The net income is *divided equally after* A is allowed a *salary* of $5,000. In addition, each partner is allowed *interest* on his average capital balance at the rate of 6% per annum. It is important to note that the salary and interest provisions are a form of profit distribution. They are not expenses as they would be if paid to employees or creditors. Therefore, the partners must agree in their partnership contract to provide expressly for the payment of salaries and interest. Furthermore, once agreed upon, the provision for salary and interest must be credited to the partners whether *paid* or not, and whether there is a net income or a net loss. The entries for the division of the $20,000 net income are as follows:

(1) Income summary	5,000	
A Capital		5,000
Explanation: To record the provision for A's salary.		
(2) Income summary	1,500	
A Capital		660
B Capital		840
Explanation: To record provision for interest on the partners' average capital balances.		

Interest is computed in the following manner:

	Average Capital		Rate	Interest
A	$11,000	×	6%	$ 660
B	14,000	×	6%	840
				$1,500

The entry to divide the balance of the Income Summary equally is:

(3) Income summary			13,500
A Capital			6,750
B Capital			6,750
Net income		$20,000	
Less: A Salary	$5,000		
A Interest	660		
B Interest	840	6,500	
Balance equally		$13,500	

Case 7 The facts are the same as in Case 6, except that the net income to be divided is only $4,000. This is less than the partnership agreement provision for a salary of $5,000 to A and interest to A and B on their average capital balances, of $1,500. Nevertheless, the partnership

agreement is binding. The first two entries are therefore the same as Case 6:

(1) Income summary	5,000	
A Capital		5,000

Explanation: To credit A with salary as provided by the partnership agreement.

(2) Income summary	1,500	
A Capital		660
B Capital		840

Explanation: To credit A and B with interest on their average capitals.

(3) After these two entries are posted, the Income Summary account has a debit balance of $2,500:

Income Summary

Salary to A	5,000	Net income	4,000
Interest to A	660		
Interest to B	840		

Division of Net Income

	A	B	Total
Salary	$ 5,000		$ 5,000
Interest	660	$ 840	1,500
Remainder	(1,250)	(1,250)	(2,500)
Totals	$ 4,410	$(410)	$(4,000)

The following entry is necessary to close the Income Summary account:

A Capital	1,250	
B Capital	1,250	
Income summary		2,500

Explanation: To close the balance of the Income Summary account and divide it between A and B on a 50–50 basis in accordance with the partnership agreement.

Statement of Partners' Capital Accounts The financial report that is submitted to the partners at the end of the fiscal year should include a balance sheet, an income statement, and a statement summarizing the changes in the partners' capital accounts during the year. Using the data taken from the illustrations in Cases 5 and 6 above, the following is a suggested presentation of a statement of the partners' capital accounts, preceded by a summary of the income statement:

Exhibit C

PARTNERSHIP OF A AND B
Income Statement
Fiscal Year Ended December 31, 19—

Revenues (details omitted)			$100,000
Costs and Expenses (details omitted)			80,000
Net Income			$ 20,000
Distributed as follows:			
	A	B	Total
Salary	$ 5,000		$ 5,000
Interest	660	$ 840	1,500
Balance equally	6,750	6,750	13,500
Totals	$12,410	$7,590	$20,000

Exhibit B

PARTNERSHIP OF A AND B
Statement of Partners' Capital Accounts
Fiscal Year Ended December 31, 19—

	A	B	Total
Balance, January 1, 19—	$10,000	$15,000	$25,000
Additional investments, Jan. 1 to Dec. 31, 19—	8,000	8,000	16,000
Total	$18,000	$23,000	$41,000
Add: Net Income per Exhibit C	12,410	7,590	20,000
Total	$30,410	$30,590	$61,000
Less: Drawings, Jan. 1 to Dec. 31, 19—	11,500	10,000	21,500
Capital account balances, Dec. 31, 19—	$18,910	$20,590	$39,500

Dissolution of a Partnership

A dissolution of a partnership is to be distinguished from a liquidation. Dissolution is "the change in the relation of the partners caused by any partner ceasing to be associated in the carrying on as distinguished from the winding up of the business." [8] A liquidation of a partnership is the termination of the activities in which the partnership is engaged.

A partnership may be dissolved voluntarily, as upon an agreement among the partners; for example, when a new partner is admitted and a new partnership formed. A partnership may be dissolved involuntarily as in the case of the death or bankruptcy of one of the partners, the operation of an illegal enterprise, or by a judicial decree issued by

[8] Uniform Partnership Act, Section 17.

a court on behalf of a partner asking for a dissolution. When dissolution takes place, the business does not cease to exist unless the winding up of the partnership affairs is completed. If the firm is to be liquidated, the remaining or surviving partners become trustees of the firm's assets for the purpose of: (1) paying the partnership's creditors, (2) refunding any advances or loans made by any of the partners to the firm, and (3) returning the partners' capital contributions.

An Illustration:

Case 1 The partnership of A, B, and C is dissolved on July 1, due to the death of C. The following trial balance is taken from the general ledger *after all adjustments have been made for the period, January 1 to July 1.*[9] The partnership's fiscal year begins on January 1.

Cash	30,000	
Accounts receivable	45,000	
Inventory (July 1)	65,000	
Fixed assets (less accumulated depreciation)	100,000	
Accounts payable		25,000
A Capital		75,000
A Drawing	10,000	
B Capital		75,000
B Drawing	12,000	
C Capital		50,000
C Drawing	8,000	
Income summary		45,000
	270,000	270,000

(1) The Income Summary account is closed into the partners' capital accounts in their profit and loss ratio. An equal distribution is assumed in this case.

Income summary	45,000	
A Capital		15,000
B Capital		15,000
C Capital		15,000

(2) The drawing accounts are closed:

A Capital	10,000	
B Capital	12,000	
C Capital	8,000	
A Drawing		10,000
B Drawing		12,000
C Drawing		8,000

At this point, the deceased partner, C's, Capital account has the following balance, as at July 1:

[9] See footnote 7.

Capital (before closing)	$50,000
Add: One-third share of the Net Income	15,000
	$65,000
Less: Drawings for the period January 1 to July 1	8,000
Capital account July 1	$57,000

If the business is to be continued under the new partnership of A and B, arrangement must be made with C's estate to pay the balance in his capital account. It may be agreed, for example, that a partial payment in cash be made immediately, and the estate be given a note payable for the balance, as suggested in the following entry:

C Capital	57,000	
Cash		15,000
Note payable		42,000

As illustrated in the preceding case, the dissolution of a partnership due to the death of a partner necessitates taking an inventory and closing the books. If this occurs during the busy season, results could be serious, not only to the surviving partners but to the deceased partner's estate as well, because the problem of taking an inventory and closing the books may require shutting down operations. To overcome this problem, the partnership agreement may provide that the business activities continue until the end of the month or the end of the fiscal year at which time an inventory is normally taken and the books closed. The deceased partner's share of the net income may be prorated to the period he was engaged in the business. However, if the end of the fiscal year is several months away, it may be more equitable if the partnership agreement provides that, while the closing of the books and the taking of inventory may be postponed, the interest of the deceased partner will be determined from the revenues earned and expenses incurred while he was engaged in the business. The inventory at the date of death could then be estimated, perhaps using the gross profit method, as illustrated in Chapter 17.

Liquidation of a Partnership

The accounting for a liquidation of a partnership follows a well-established procedure, required by statute. Generally, these procedures involve these steps:

1. An inventory is taken, and the net income of the partnership is determined to the date of dissolution.

2. The Income Summary and drawing accounts are closed into the partners' capital accounts.

3. The next step is to convert the assets into cash. This procedure is termed *realization.*

4. Any gain or loss on the realization of the assets is prorated among the partners' capital accounts in accordance with their profit and loss sharing ratio, and not in the ratio of their capital account balances. It is important that this step be followed before distributing any cash to the partners. To distribute cash among the partners before dividing all gains or losses may cause an overpayment to a partner and liquidate his interest in the partnership before he has absorbed his share of losses.

5. After the partners' capital accounts have been adjusted to reflect all the gains and losses arising from the operations of the business and the realization of the non-cash assets, the cash is distributed in the following order: (a) Payments to the partnership creditors, (b) payments to the partners for their loans, if any, and (c) payments to the partners for their capital account balances.

The foregoing rules and procedures are illustrated in the following cases.

An Illustration At the end of its fiscal year, the partnership of A, B, and C is dissolved and liquidated because of unprofitable operations. The following post-closing trial balance is prepared:

Cash	10,000	
Non-cash assets (details omitted)	50,000	
Liabilities (details omitted)		20,000
Loan payable to A		5,000
A Capital		10,000
B Capital		10,000
C Capital		15,000
	60,000	60,000

Case 1 The *non-cash assets* are sold for $41,000, resulting in a loss of $9,000. The following tabulation illustrates the procedure required in a liquidation.

	Cash	Non-Cash Assets	Liabilities	A Capital	A Loan	B Capital	C Capital
	$10,000	$50,000	$20,000	$10,000	$5,000	$10,000	$15,000
(1)	41,000	(50,000)		(3,000)		(3,000)	(3,000)
	51,000	–0–	20,000	7,000	5,000	7,000	12,000
(2)	(20,000)		(20,000)				
	31,000		–0–	7,000	5,000	7,000	12,000
(3)	(5,000)				(5,000)		
	26,000			7,000	–0–	7,000	12,000
(4)	(26,000)			(7,000)		(7,000)	(12,000)
	–0–			–0–		–0–	–0–

The foregoing figures supply the information for the following liquidating journal entries:

1.	Cash	41,000	
	A Capital	3,000	
	B Capital	3,000	
	C Capital	3,000	
	Non-cash assets		50,000
	Explanation: To record the sale of the non-cash assets (details omitted) at a loss of $9,000 divided among the partners equally in accordance with their profit and loss ratio.		
2.	Liabilities (details omitted)	20,000	
	Cash		20,000
	Explanation: To record payments to creditors.		
3.	A Loan payable	5,000	
	Cash		5,000
	Explanation: To record payment of A's loan.		
4.	A Capital	7,000	
	B Capital	7,000	
	C Capital	12,000	
	Cash		26,000
	Explanation: To record payments to the partners for the balances in their capital accounts.		

Case 2 The facts are the same as in the preceding case, except that the non-cash assets are sold for only $17,000, or a loss of $33,000. The following tabulation illustrates the procedure to be followed in this liquidation:

	Cash	Non-Cash Assets	Liabilities	A Capital	A Loan	B Capital	C Capital
	$10,000	$50,000	$20,000	$10,000	$5,000	$10,000	$15,000
(1)	17,000	(50,000)		(11,000)		(11,000)	(11,000)
	27,000	-0-	20,000	(1,000)	5,000	(1,000)	4,000
(2)	(20,000)		(20,000)				
	7,000		-0-	(1,000)	5,000	(1,000)	4,000

At this point, both A and B have debit balances in their capital accounts. These amounts are owing to the partnership and should be paid in by A and B. However, assuming that B does pay and A does not, the partnership has the right to offset the debit balance in A's Capital account against the credit balance in his loan account. The tabulation of the liquidation continues in the following manner:

		Cash	A Capital	A Loan	B Capital	C Capital
Balances brought forward		$7,000	$(1,000)	$5,000	$(1,000)	$4,000
Payment by B	(3)	1,000			1,000	
Balances		8,000	(1,000)	5,000	-0-	4,000
Right of offset	(4)		1,000	(1,000)		
Balances		8,000	-0-	4,000		4,000
Final liquidation	(5)	(8,000)		(4,000)		(4,000)
		-0-		-0-		-0-

Case 3 The facts are the same as in Cases 1 and 2, except that B does not pay the debit balance in his capital account after being charged with the $11,000 loss on the sale of the assets. It is assumed that the amount cannot be recovered. Starting the tabulation after the second transaction in Case 2 above, the procedure is as follows:

		Cash	A Capital	A Loan	B Capital	C Capital
Balances brought forward from Case 2		$7,000	$(1,000)	$5,000	$(1,000)	$4,000
Additional loss to the partnership, charged to A and C according to their profit and loss ratio of one to one or 50% each.	(3)		(500)		1,000	(500)
Balances		7,000	(1,500)	5,000	-0-	3,500
Right of offset	(4)		1,500	(1,500)		
Balances		7,000	-0-	3,500		3,500
Final liquidation	(5)	(7,000)		(3,500)		(3,500)
		-0-		-0-		-0-

If conditions were to develop in the liquidation of a partnership such as to make it desirable to extend the time of liquidation, the partners may be paid periodically in installments. A description of this procedure is to be found in advanced accounting textbooks.

Incorporation of a Partnership

When a partnership is incorporated, it is legally dissolved even though the same partners become the stockholders of the newly formed corporation. The order of procedure is the same as in the dissolution of a partnership, described in the preceding sections of this chapter. The order of procedure followed in the incorporation of a partnership is the same as that described in Chapters 22 and 23. Briefly restated, the following steps are generally followed when a partnership is incorporated.

1. An inventory is taken, the books are closed, and the partnership capital account balances are determined.

2. A selling price is established for the owners' equity of the partnership. A sales agreement is drawn up between the partnership as a vendor and the corporation as a vendee.

3. In the determination of a selling price, the partnership assets may be revalued, and the partners' capital accounts adjusted by a debit or a credit, for the amount of the adjustment, in the partners' profit and loss ratio.

4. If the selling price is more than the adjusted value of the owners' equity, there is an indicated goodwill. However, the payment for the goodwill, as explained in Chapter 19, should be based on an arm's-length transaction between the buyer and the seller.

5. The adjusted asset and liability accounts are closed, and the corporation as a vendee is charged with the difference, representing the selling price.

6. The capital stock received by the partners is recorded as a payment for their owners' equity.

7. The capital stock is distributed to the partners in the amounts of their adjusted capital accounts.

8. The corporation (having already been organized) acquires the assets and assumes the liabilities, if any, of the partnership.

9. The assets and the liabilities acquired by the corporation are recorded on the books of the corporation, and an account, "Partnership as Vendor," is credited for the difference.

10. The capital stock issued to the partners is recorded by the corporation, and the Partnership as Vendor account debited.

The foregoing procedures are illustrated in the following example: The partnership of A, B, and C has closed its books and prepared the following post-closing trial balance. Profits and losses are divided equally.

Cash	10,000	
Accounts receivable	20,000	
Allowance for doubtful accounts		5,000
Inventory	20,000	
Land	10,000	
Other assets (details omitted)	20,000	
Accounts payable		15,000
A, Capital		15,000
B, Capital		25,000
C, Capital		20,000
	80,000	80,000

The ABC Corporation is formed with an authorized capital stock of 1,500 shares of $100 par value stock. The following adjustments are made on the partnership books before the sale is consummated:

1. The Allowance for Doubtful Accounts is increased by $3,000.
2. The inventory is reduced by $900.
3. The land is increased by $6,900.
4. A goodwill of $15,000 is recorded.

The corporation issued $78,000 of its authorized capital stock to the partners in payment of their adjusted capital account balances (including the credit for goodwill), and sells an additional 220 shares to other investors.

Solution: Case 1—A Separate Set of Books Is Opened for the Corporation.

A. *The entries on the books of the partnership.* In making the above adjustments to the asset accounts, the offsetting debits or credits may be made directly to the partners' capital accounts. An alternative is to record the offsetting debits or credits to a Capital Adjustment account. After all the adjustments are made, the Capital Adjustment account is then closed out to the partners' capital accounts in their profit and loss ratio. This latter procedure is recommended and is followed in this example.

1. Entry to adjust the allowance for doubtful accounts.

Capital adjustment	3,000	
Allowance for doubtful accounts		3,000

2. Entry to reduce the inventory.

Capital adjustment	900	
Inventory		900

3. Entry to adjust the land.

Land	6,900	
Capital adjustment		6,900

4. Entry to record the goodwill.

Goodwill	15,000	
Capital adjustment		15,000

5. Entry to close the Capital Adjustment account.

Capital adjustment	18,000	
A Capital		6,000
B Capital		6,000
C Capital		6,000

Explanation: To close the Capital Adjustment account into the partners' capital accounts, crediting each with one-third.

	Capital Adjustment Account	
	Debits	Credits
(1) Increase allowance for doubtful accounts	3,000	
(2) Reduce inventory	900	
(3) Increase land account		6,900
(4) Goodwill		15,000
	3,900	21,900
(5) Balance divided equally among the partners, one-third each	18,000	
	21,900	21,900

6. Entry to close the asset and liability accounts.

ABC Corporation vendee	78,000	
Accounts payable	15,000	
Allowance for doubtful accounts	8,000	
Cash		10,000
Accounts receivable		20,000
Inventory		19,100
Land		16,900
Other assets (details omitted)		20,000
Goodwill		15,000

7. Entry to record capital stock received from the corporation.

Stock in the ABC Corporation	78,000	
ABC Corporation vendee		78,000

Explanation: To record the receipt of 780 shares of $100 par value stock in payment of the selling price of the partnership equity.

8. Entry to record the distribution of the stock certificates to the partners.

A Capital	21,000	
B Capital	31,000	
C Capital	26,000	
Stock in the ABC Corporation		78,000

B. *Entries on the books of the corporation:*

1. Memorandum entry: Authorized issue of capital stock, 1,500 shares of $100 par value common stock.
2. Entry to record the acquisition of the partnership assets, the assumption of the liabilities, and the liability to the partnership for the purchase price.

Cash	10,000	
Accounts receivable	20,000	
Inventory	19,100	
Land	16,900	
Other assets (details omitted)	20,000	
Goodwill	15,000	
Allowance for doubtful accounts		8,000
Accounts payable		15,000
A, B, and C Partnership vendor		78,000

3. Entry to record stock certificates issued to the partners.

A, B, and C Partnership vendor	78,000	
Capital stock		78,000

Explanation: To record stock certificates issued:

To A	210 shares
To B	310 shares
To C	260 shares
	780 shares

4. Entry to record the sale of 220 shares to other investors.

Cash	22,000	
Capital stock		22,000

Solution: Case 2—The Partnership Books Are Retained Instead of opening a new set of books for the corporation, the books of the partnership may be retained and used. The entries on the partnership books are illustrated below:

1. A memorandum entry showing the authorized capital stock.
2. Entries 1–5 on the partnership books illustrated above are the same.
3. Entry to record the distribution of stock to the partners in payment of their adjusted capital account balances.

A Capital	21,000	
B Capital	31,000	
C Capital	26,000	
Capital stock		78,000

Explanation: To record the issue of 780 shares of $100 par value stock to partners A, B, and C, in payment of the adjusted capital account balances, as follows:

	A Capital	B Capital	C Capital	Total Capitals
Balances before adjustments	$15,000	$25,000	$20,000	$60,000
Capital adjustments (see entries 1–5, pages 552–553)	6,000	6,000	6,000	18,000
Adjusted capital balances	$21,000	$31,000	$26,000	$78,000

QUESTIONS

1. What are the distinguishing features of a partnership?
2. Is it necessary for a partnership agreement to be in writing? What points should be covered in a partnership agreement?
3. In what ways may a new partner be admitted to a partnership? In general, what is the difference?
4. If a new partner buys an interest in a partnership from an existing partner, and pays more for the interest than the amount for which he is credited, how is the difference accounted for?
5. A new partner buys a 25% interest in a partnership for $12,000. The present partnership has a total capital or owners' equity of $25,000. In what ways may the purchase of the interest be interpreted?
6. The capital accounts of A, B, and C are $5,000, $10,000, and $15,000, respectively. D invests $10,000 for a 25% interest. What is the entry to record the admittance of D to the partnership?
7. Assume in Question 6 that D invested $10,000 for a 20% interest. What entry is made to admit D?
8. What are some of the ways that a partnership net income may be divided?
9. In the absence of an agreement either oral or written, does A have a valid claim to a salary? He operates the business. B, his partner, has a nominal investment and does not take an active part in the operations.
10. What are some of the causes of a dissolution of a partnership?
11. What is the difference between a dissolution and a liquidation of a partnership?
12. A partnership is in the process of liquidation. Why should the gains or losses on the sale of assets be charged or credited to the partners' capital accounts before a cash distribution is made to them?

PROBLEMS

Problem 24-1

A and B are partners in a retail store. They share profits in the ratio of 60% to A and 40% to B. On January 1, their capital accounts are as follows:

A Capital	20,000
B Capital	15,000

During the current year, the business earns a net income of $20,000, against which A drew $8,000 and B, $6,000.

Required:

(A) Prepare general journal entries with explanations to divide the net income for the current year between A and B, and close the drawing accounts.

(B) Set up T accounts for the partners' capital accounts showing all entries as they appear at the end of the year after closing the books.

(C) On January 1 of the following year, C is admitted to the partnership upon a purchase of a 10% interest from A for $3,000 and a 10% interest

from B for $2,000. Prepare the entry or entries to record the admittance of C.

(D) What is the gain or loss on the sale of A's and B's interest? Does the gain or loss appear on the books of the partnership?

(E) Prepare the journal entry made at the end of the second year to divide a net income of $30,000. The new profit and loss ratio is 54–36–10.

Problem 24-2

A and B agreed to divide profits as follows:
Salaries:

A	$6,000
B	4,000

Interest on average monthly capitals at 3% per annum. Remainder equally. Their capital accounts appear below:

A Capital

19—		19—	
May 1	2,400	Jan. 1	24,000
July 1	1,200	Aug. 1	5,000
Sept. 1	600	Dec. 1	3,800

B Capital

19—		19—	
Mar. 1	900	Jan. 1	18,000
July 1	2,700	May 1	1,500
		Oct. 1	4,200

Required:

Compute average capitals of A and B and prepare journal entries to divide the profits of $11,000.

Problem 24-3

Bob and Ray were partners in an auto repair shop, sharing profits on the basis of 60% to Bob and 40% to Ray. On January 1, 19A, their capital accounts were as follows:

Bob, Capital	$20,000
Ray, Capital	15,000

During the current year, their net income was $18,000, against which Bob withdrew $7,000 and Ray, $6,000.

Required:

(A) Journal entries to record the drawings of Bob and Ray and the distribution of the net income to their accounts.

(B) Set up T accounts and post the beginning capital balances and the entries in (A).

(C) Record the admission of Joe to the partnership on January 1, 19B, the beginning of the following year. Joe pays Bob $10,000 for ⅓ of Bob's interest; and Ray, $5,000 for ¼ of Ray's interest.

(D) If the partnership net income in the year 19B is $15,000, how much is each partner's share? The new profit and loss ratio is 40–30–30.

Problem 24-4

The balance sheet of the partnership of A, B, and C on January 1, 1962, was as follows:

A, B, C PARTNERS
Balance Sheet
January 1, 1962

Assets		Liabilities	
Cash	$ 7,400	Accounts payable	$11,500
Accounts receivable (net)	14,600	Notes payable	3,500
Inventory	7,000		
Land	5,000	Total Liabilities	$15,000
Buildings (net)	24,000		
Furniture & fixtures (net)	3,000	Partners' Capitals	
		A Capital	$18,000
		B Capital	16,000
		C Capital	12,000
		Total Capitals	$46,000
	$61,000		$61,000

A, B, and C have been sharing profits equally. On January 1, 1962, the XYZ Corporation is formed to take over the assets and assume the liabilities of the partnership. The authorized capital stock of the new corporation consists of 1,000 shares of $100 par value each, of which 610 shares are issued to the partners for their partnership business, including Goodwill. They also sold for cash 100 shares of stock at 102.

Required:

(A) Prepare journal entries to record the above facts on the new books of the corporation.

(B) Prepare the stockholders' equity section of the corporate balance sheet after giving effect to the above transactions.

Problem 24-5

The balance sheet of the partnership of X, Y, and Z as at January 1, 19— appears below:

X, Y, AND Z, PARTNERSHIP
Balance Sheet
January 1, 19—

Assets		Liabilities and Net Worth		
Cash	$ 8,000	Accounts payable		$12,000
Accounts receivable	15,000	Note payable		4,000
Inventory	6,000	Net worth:		
Land	5,000	X Capital	$20,000	
Building, less		Y Capital	18,000	
Accumulated depreciation	20,000	Z Capital	10,000	48,000
Fixtures	10,000			
	$64,000			$64,000

On January 1, 19—, the XYZ Corporation is formed to take over the assets and assume the liabilities of the partnership. The Corporation is authorized to issue 500 shares of $100 par value capital stock, all of which is issued to the partners. The partners share profits in the ratio of 50–30–20.

Required:

(a) Prepare the journal entries on the books of the corporation to record the authorization of the capital stock, the acquisition of the assets and the assumption of the partnership liabilities, and the issuance of the capital stock to the partners.

(b) Prepare the owners' equity section of the corporate balance sheet following the acquisition of the partnership.

Problem 24-6

The partnership of R, S, and T has been dissolved. The books have been closed and the partnership is to be liquidated. The following is the post-closing trial balance:

R, S, AND T—PARTNERSHIP
Post-Closing Trial Balance
May 31, 19—

Cash	4,000	
Other assets (details omitted)	55,000	
Liabilities (details omitted)		30,000
R, Loan payable		5,000
R, Capital		6,000
S, Capital		9,000
T, Capital		9,000
	59,000	59,000

Required:

(A) Prepare a worksheet tabulating the liquidation of the partnership, assuming the "Other Assets" are sold for $34,000. The partners share profits and losses equally.

(B) Prepare journal entries to record the sale of the assets, payment of the liabilities, and liquidation of the partners' loan and capital accounts.

SUPPLEMENTARY PROBLEMS

Problem 24-7

The December 31, 1962, adjusted trial balance of Henry and James, a partnership, appears below.

HENRY AND JAMES
Adjusted Trial Balance
December 31, 1962

Cash	20,600	
Accounts receivable	16,400	
Inventory January 1, 1962	35,000	
Land and buildings	120,000	
Allowance for depreciation		60,000
Goodwill	25,000	
Accounts payable		62,000
Note payable		5,000
Loan payable—Henry		25,000
Henry, Capital		40,000
Henry, Drawing	2,000	
James, Capital		35,000
James, Drawing	16,000	
Sales		310,000
Sales returns and allowances	3,000	
Purchases	250,000	
Selling expense control	18,000	
Administrative expense control	31,000	
	537,000	537,000

Additional information:

1. Henry invested $10,000 on June 10, 1962.
2. A salary is to be allowed James for 1962 in the amount of $10,000.
3. 6% interest is to be allowed the partners on their beginning capitals.
4. The balance of the profit or loss is to be divided—Henry 70%, James 30%.
5. The end of the year inventory is $43,000.
6. Interest is payable on Henry's loan at 6% per annum.

Required:

(A) A classified balance sheet as of December 31, 1962.
(B) An income statement, properly classified, for the year 1962.
(C) A statement of partners' capitals for 1962.

(Form 8)

Problem 24-8

The income statement of Mantel, Marus, and Marsh, a partnership, showed a net loss of $5,000 for the year ended June 30, 1962.

Mantel had a capital account balance of $30,000, which had not changed since June 30, 1961. Marus had invested additional capital in the amount of $6,000 on January 10, 1962. Marsh had withdrawn $1,500 more than the agreed amount in March, 1962.

Marus' and Marsh's capital accounts had balances of $15,000 and $10,000, respectively, on June 30, 1962.

Submit journal entries to close the Income Summary account under each of the following conditions:

1. Mantel is to be allowed a salary of $5,000; the remainder is to be divided: Mantel, 70%; Marus, 20%; and Marsh, 10%.
2. Interest at 6% is to be allowed Marus on his capital at the beginning of

the period; the remainder is to be divided in the ratio of capitals at the end of the period before the interest allowance.

3. Interest at 5% is to be allowed all partners on capital balances at the beginning of the period; the remainder is to be divided 6–2–2.
4. A $4,000 salary is to be allowed Marsh; interest at 4% is to be allowed Mantel and Marus on their capital account balances at the end of the period; and the remainder is to be divided equally.
5. Salaries of $3,500 are to be given each partner, interest at 4% is to be allowed on capitals at the beginning of the year; and the remainder is to be divided in the ratio of 2–1–1.

Explain each entry in detail.
(Form 3)

Problem 24-9

The post-closing trial balance of Black and Blue is set forth below:

BLACK AND BLUE
Post-Closing Trial Balance
December 31, 19—

Cash	16,000	
Accounts receivable	24,000	
Inventory	30,000	
Fixed assets (details omitted)	100,000	
Allowance for depreciation		40,000
Accounts payable		20,000
Black, loan payable		10,000
Black, capital		50,000
Blue, capital		50,000
	170,000	170,000

Additional information:
Black and Blue share profits and losses equally. On January 1, 19—, the beginning of the following year, Black and Blue formed the Blueblack Corporation, with an authorized capital of $150,000, consisting of 1,500 shares of $100 par value stock, to take over the assets and assume the liabilities of the partnership. Before the transfer, provision was made for an allowance for bad debts of $2,000. Black's loan is to be repaid with an issue of stock. Black and Blue are to receive $110,000 in capital stock for their interests in the partnership.

Required:
(A) Record the liquidation entries on the books of the partnership.
(B) Prepare the balance sheet for the corporation as of January 1, 19—.

(Forms 3, 8)

25

Departmental Accounting

Importance of Departmentalization

There are comparatively few merchandising enterprises that limit their activities to the sale of a single product. Instead, all retail stores and many wholesale companies offer a variety of products or product lines for sale. A product line is a family of products, in other words, a group of related products usually sold at *the same rate of gross profit.* Demands of ever-widening markets and the competition of selling in these markets has caused many companies to open branches in new territories in order to capture their share of the market. Diversification of product lines and the use of a variety of forms of business organization have posed several problems to management and to the accountant whose job it is to supply management with the more detailed information required to control these complex marketing activities. Information that management will ask of the accountant before and after the decision is made to add a new product, open a new branch, or transfer inventory to a new warehouse is suggested by the following questions:

1. What are the sales in each department or other form of sales outlet?
2. What are the costs of sales in each department?
3. How much gross profit is earned on the sales by each department?
4. What are the expenses incurred in making sales in each department?
5. How much is invested in each department?

The over-all objective that management has in mind is to sell a sufficient volume of each product line to yield an adequate return on the investment in the inventory and other assets in each department, branch, territory, or division. By providing management with the answers to

the questions raised above, the accountant can help management to meet its objectives. It should be borne in mind that management is just as much interested in knowing that each department is operating at a profit as it is in knowing that the company as a whole is operating at a profit. Management needs a detailed knowledge of the sales, cost of sales, and expenses in each department to know why some departments are operating at a profit and others at a loss. It is not enough to know the total net income or loss. Furthermore, management cannot place responsibility for the unprofitable operation unless it has the facts.

The facts come largely through the results of the functions of an accounting system so designed as to provide the kind and amount of information needed by the management of a departmentalized business enterprise. In describing such a system, the illustrations used in this chapter will cover the operations of a retail enterprise. Fundamentally, however, the same procedures are applicable to any type of departmentalized enterprise. In a retail company, products are segregated according to a product line, e.g., clothing, household furnishings, food, and other commodities. Even within these broad categories of products, there may be further classification, e.g., men's clothing, women's clothing, and children's clothing. For the purpose of control over the sales and purchases, each department in a retail store is usually headed by a buyer, who is an expert on the products in his department. The purpose, therefore, of this chapter is to: (a) describe briefly the essential features of a departmental accounting system, (b) cover the principal operations of departmental accounting procedures, and (c) describe and illustrate the results as they should appear on the financial statements.

Essential Requirements of Departmentalized Accounting

There are three essential requirements that must be observed in setting up a departmental accounting system: (a) source documents identified by departments, (b) a departmental Chart of Accounts, and (c) journals and ledgers designed to classify entries by departments. Each of these requirements is explained in the following paragraphs.

1. *Identification* of all sales invoices, purchases orders, and other *source documents* by department. An accurate record of departmental costs and revenues can best be accomplished if the data originating in, or pertaining to, a department is identified at the source. The source documents can be coded with a number, letter, or combination of numbers and letters, and printed on different colored paper to facilitate the identification of the document with a department. When automated equipment is used, coding source documents is necessary. Department stores use pre-numbered sales invoices

found in multi-copy sales pads for credit sales. Cash sales may be recorded on a cash register in each department. As the clerk makes change, an entry is recorded automatically on a tape locked in the cash register. Self-service stores, e.g., food "super-markets," have a central "check-out" location where the customers' purchases are totaled by a clerk using a cash register. Food purchases are distinguished from drugs and household products by separate keys on the machine. The depression of an identification key along with the amount of the purchase will record and classify the sales on a tape locked in the register.

2. Expansion of the *Chart of Accounts* to include revenue and expense accounts for each department. The general ledger must include at least the following accounts by department to enable the accountant to compute the gross profit on sales for each department:
    1. An inventory account for each department.
    2. A purchases account for each department.
    3. A purchases returns and allowances account for each department.
    4. A sales account for each department.
    5. A sales returns and allowances account for each department.

If there are many departments, each of the above-indicated accounts can be combined into a single control account, which is supported by a subsidiary ledger. For example, a single inventory control account in the general ledger can take the place of several departmental inventory accounts combining the details of the inventory in each department as recorded on departmental perpetual inventory record cards.

In addition to the foregoing accounts that make up the minimum essentials, it is desirable to classify expenses by department when they can be conveniently and logically identified with a department. The wages paid to salesclerks is an example of a *direct departmental expense.* By providing columns in the payroll journal for each department, similar to the illustration in Chapter 20, wages can be classified as they are entered on each payroll date. A separate wage expense account can, therefore, be provided in the general ledger for each department.

Expenses that jointly benefit more than one department are termed *indirect departmental expenses.* A retail merchant's license, delivery expenses, and store rent are examples of indirect expenses. The procedures by which these expenses may be prorated to departments and an alternative method of presenting them on the income statement are discussed in detail on page 572.

A portion of a suggested Chart of Accounts designed for a retail drug store is illustrated below. The departmental general ledger accounts referred to above are outlined in detail in this Chart of Accounts. How-

ever, these are only a few of the accounts that may be found in the large retail drug stores of today.

A RETAIL DRUG STORE
Chart of Accounts

Current Assets:
- Inventory—Tobacco, magazines, and newspapers.
- Inventory—Bulk chemicals (used in the prescriptions department).
- Inventory—Patented drugs, cosmetics.
- Inventory—Candy and ice cream.
- Other current assets (details omitted).

Fixed Assets (Details omitted, although the Store Equipment account and the Allowance for Depreciation on Store Equipment account may be analyzed and classified by departments).

Current Liabilities (details omitted; but departmentalization is not necessary).

Owners' Equity:
- Capital stock or Proprietor's capital account
- Retained earnings or Partners' capital accounts.

Income Accounts:
- Sales—Tobacco, magazines, and newspapers.
- Sales returns and allowances—Tobacco, magazines, and newspapers.
- Sales—Prescriptions.
- Sales returns and allowances—Prescriptions.
- Sales—Patented drugs and cosmetics.
- Sales returns and allowances—Patented drugs and cosmetics.
- Sales—Candy and ice cream.
- Sales returns and allowances—Candy and ice cream.

Cost of Sales Accounts:
- Purchases—Tobacco, magazines, and newspapers.
- Purchases returns and allowances—Tobacco, magazines, and newspapers.
- Purchases—Prescriptions.
- Purchases returns and allowances—Prescriptions.
- Purchases—Patented drugs and cosmetics.
- Purchases returns and allowances—Patented drugs and cosmetics.
- Purchases—Candy and ice cream.
- Purchases returns and allowances—Candy and ice cream.

Selling Expenses:
- Wages—Pharmacist.
- Clerks' wages—Tobacco, magazines, and newspapers department.
- Clerks' wages—Prescriptions department.
- Clerks' wages—Patented drugs and cosmetics department.
- Clerks' wages—Candy and ice cream department.
- Other selling expenses (Details omitted, except to note that many expenses, such as payroll taxes, depreciation on store equipment, and others can be directly related to each of the departments in this illustration. Other expenses, such as insurance, rental of the store, and property taxes may be reasonably prorated to the various departments on the basis of the property values in each department, or the number of square feet occupied by each department. These problems will be illustrated later in this chapter.)

General and Administrative Expenses (Details omitted. Most of these expenses are either not directly related, nor can they be individually prorated, to the departments on a common basis. Consequently, these expenses may be totaled as a group and prorated to each of the departments on an arbitrary basis, such as the amount of sales dollars in each department, or they can be deducted as a group from the combined net income on sales in all departments. This problem is further explained on pages 572–573).

3. *Journals and ledgers designed* to permit the recording of the source documents by departments. The first illustration that appears below is the *departmental sales journal.* With two exceptions, it is similar to that appearing on page 268. First, there are four sales credit columns instead of one; there is a sales credit column for each department. Second, there is a memorandum cash column that permits the sales journal to be used for cash as well as credit sales. At the

end of the day, for example, the cash register is opened by the store manager or proprietor and the locked-in tape removed and given to the accountant for entry of the daily cash sales ($320.25). The daily cash sales are entered in the sales journal as credits to the various departments. In order to permit the sales journal to be balanced at the end of the month (i.e., the debits should equal the credits), the cash receipts from each day's sales are entered in a memorandum cash (debit) column. The memorandum cash entry *is not posted* from the sales journal. The daily cash sales are also entered in the *cash receipts* journal as a debit to Cash, with a *memorandum credit* to cash sales in the memo cash sale credit column. The cash receipts journal is illustrated below the sales journal. The entry of the memorandum credit permits the cash receipts journal to be balanced at the end of the month. However, the memorandum credit to sales *is not posted* from the cash receipt journal. Instead the credit to sales will have been posted to the ledger when the departmental sales credit columns are posted from the sales journal at the end of the month.

SALES JOURNAL

Left-hand page 10 — Month of July, 19—

Date	Customer	Invoice Number	Fol.	Debit: Accounts Receivable	Memo: (Debit) Cash
19—					
Jul. 1	Henry Jordan	75	✓	21.50	
1	Cash sales (per register)				320.25
	Monthly totals			1,021.50 ✓	9,320.25 *

SALES JOURNAL

Right-hand page 10 — Month of July, 19—

Sales Credits					Credit
Tobacco, Magazines & Newspapers	Prescriptions	Patent Drugs & Cosmetics	Candy & Ice Cream		Sales Tax Payable
	15.00	5.00			1.50
15.00	125.00	150.00	25.00		5.25
515.00 ✓	4,500.00 ✓	3,000.00 ✓	2,100.00 ✓		226.75 ✓

CASH RECEIPTS JOURNAL

Page 5 Month of July, 19—

Date	Received From	Debit		Credit	Memo	Credit	
		Cash	Fol.	Accounts Receivable	(Credit) Sales	Sundry A/C	Sundry Amount
19—							
Jul. 1	Cash Sales	320.25			320.25		
1	Fred Johns	10.00	✓	10.00			
	Monthly Totals	10,230.25 ✓		910.00 ✓	9,320.25 *		

*Not posted.

The preceding departmental sales and cash receipts journals are posted at the end of the month to the general ledger with the following results:

Cash

7/31	(CR5)	10,230.25			

Accounts Receivable

7/31	(S10)	1,021.50	7/31	(CR5)	910.00

Sales Tax Payable

			7/31	(S10)	226.75

Sales—Tobacco Magazines & Newspapers

			7/31	(S10)	515.00

Sales—Prescriptions

			7/31	(S10)	4,500.00

Sales—Patented Drugs & Cosmetics

			7/31	(S10)	3,000.00

Sales—Candy and Ice Cream

			7/31	(S10)	2,100.00

The *purchases journal* below is designed to charge the cost of merchandise purchases to each department. An additional column may be added for Freight-In by expanding the journal.

PURCHASES JOURNAL

Page No. Month of

Date	Supplier	Credit		Purchases Debits			
		Fol.	Accounts Payable	Tobacco, Magazines & Newspapers	Prescriptions	Patented Drugs & Cosmetics	Ice Cream and Candy

At the end of each month, the columns of the departmental purchases journal are totaled and posted to the general ledger in the following manner:

Purchases—Tobacco, magazines, and newspapers department	xxxx	
Purchases—Prescription department	xxxx	
Purchases—Patented drugs and cosmetics department	xxxx	
Purchases—Ice cream and candy department	xxxx	
Accounts payable		xxxx

The *cash disbursements journal* illustrated below is also designed to record purchases by departments. If the charges to some accounts that are debited in the "Sundry Debit" column occur frequently, the cash disbursements journal may be expanded to include columns for specific expense accounts, e.g., a column for window trimming or delivery expense.

CASH DISBURSEMENTS JOURNAL

Left-hand page Month of

Date	Paid To	Explanation	Check Number	Credits	
				Cash	Purchases Discounts

CASH DISBURSEMENTS JOURNAL

Right-hand page Month of

Debit	Purchases Debits				Debit	
					Sundry	
✓ Accounts Payable	Tobacco, Magazines & Newspapers	Prescriptions	Patented Drugs & Cosmetics	Ice Cream and Candy	A/C No.	Amount

The foregoing cash disbursements journal is posted at the end of the month, after totaling the columns and balancing them for equality of debits and credits, as follows:

Accounts payable	xxxx	
Purchases—Tobacco, magazines, and newspapers department	xxxx	
Purchases—Prescriptions department	xxxx	
Purchases—Patented drugs and cosmetics department	xxxx	
Purchases—Ice cream and candy department	xxxx	
All other accounts (debited from the sundry column)	xxxx	
Cash		xxxx
Purchases discounts		xxxx

The three general ledger accounts illustrated on page 570, termed "Distribution Ledger Accounts," combine the features of a subsidiary ledger with a control account. When a debit or credit is posted to one of these accounts, it is distributed among the departmental columns on the left-hand side of the paper. If the account normally has a credit balance, as in the case of the Sales Account, Number 400, any debits that are posted may be entered in the distribution columns either in parentheses, or with red ink, to distinguish the debit entries from the credit entries. At the end of the month, the distribution columns are totaled and cross-footed. The totals of the columns cross-footed must agree with the balance of the account. In drawing off a trial balance, the distribution column totals usually appear on the worksheet instead of the control account balance.

Freight-In Distribution

Freight-in expense deserves special attention because it represents a considerable part of the cost of purchasing merchandise. Freight charges that apply to a certain product or product-line can be recorded directly as a debit to a Departmental Freight-In account when a freight bill is paid or a purchases invoice entered. On the other hand, if the freight bill covers more than one product, it may be prorated to Departmental Freight-In accounts at the time the expenditure is recorded. Or, the freight charge may be accumulated in a single Freight-In account and prorated among the departments at the end of the month.

A proration at the end of the month is recorded by an adjusting entry.[1]

Freight-in department A	xxxx	
Freight-in department B	xxxx	
Freight-in department C	xxxx	
Freight-in		xxxx

Explanation: To prorate the total of the freight-in to Departments A, B, and C on the basis of the total purchases made in each department.

As an alternative to the above monthly allocation entry, some accountants prefer to allocate the freight-in expense on the worksheet without a formal entry in the general journal and postings to the general ledger. The manner of handling allocation entries on the worksheet is illustrated on pages 574–75.

In the allocation entry illustrated above, freight-in may be prorated by department on the basis of the total purchases made for each department. Frequently there is no relationship between the cost of merchandise purchased and the freight expense. Freight charges on different commodities vary with the bulk of the commodity, the length of haul, and many other factors. Therefore any single basis of allocation will be arbitrary. While the cost of merchandise purchased is often used as a basis of allocation, it should be used only if an investigation reveals that results will be reasonably accurate.

Distribution of Purchases Discounts

As described on page 310, a purchases discount may be recorded either at the time of a purchase or at the time of payment. If recorded at the

[1] Adjusting entries of this type will be referred to as allocating entries in order to distinguish them from the usual adjustments for accruals, prepaid items, and valuation allowances.

Account No. 400

Account Title Sales

Basis of Allocation Direct

Distribution					Explanation	Date	Fol.	Debits	Credits	Balance
Tobacco Mag. News	Prescriptions	Patented Drugs-Cos.	Candy Ice Cream							
15,000	19,000 (1,000)	22,000 (1,000)	6,000		Year's totals Adjustments	19— 	SJ GJ	 2,000	62,000	62,000 60,000

Account No. 300

Account Title Purchases

Basis of Allocation Direct

Distribution					Explanation	Date	Fol.	Debits	Credits	Balance
Tobacco Mag. News	Prescriptions	Patented Drugs-Cos.	Candy Ice Cream							
12,000	8,000	15,000	4,000		Year's totals	19—	PJ	39,000		39,000

Account No. 500

Account Title Store Rent

Basis of Allocation Square footage

Distribution					Explanation	Date	Fol.	Debits	Credits	Balance
Tobacco Mag. News	Prescriptions	Patented Drugs-Cos.	Candy Ice Cream							
270	450	900	180		Year's totals	19—	CD	1,800		1,800

time of payment, the purchase is debited to the Departmental Purchases account at the net cost figure (i.e., the invoice price less the allowed cash discount). If a concern follows a consistent policy of paying its invoices and bills on time, this method is the most effective one for departmental accounting. However, if some bills are not paid on time, this method requires a debit to a Discounts Lost account. The same problems of proration occur as in the case of the freight-in.

On the other hand, if discounts earned are recorded at the time of payment, a Purchases Discounts account is credited. If the department for which the purchase was made can be identified, a Departmental Purchases Discounts account can be credited in the cash disbursements journal. If identity cannot be readily established, a single Purchases Discounts account is credited (as illustrated on page 567). A monthly allocation entry may be made in the same manner as the allocation entry for freight-in:

Purchases discounts	xxxx	
Purchases discounts, Department A		xxxx
Purchases discounts, Department B		xxxx
Purchases discounts, Department C		xxxx

Explanation: To prorate the total of the purchases discounts to Departments A, B, and C on the basis of the total purchases made in each department.

Distribution of Sales Discounts

If a customer pays by individual invoice rendered by departments, the sales discount deducted can be debited to a Departmental Sales Discounts account in the cash receipts journal. If customers pay from statements prepared from their accounts receivable, which include charges from all departmental sales, the sales discounts expense must be prorated if the departments are to bear any part of the expense. The procedure is the same as that described for freight-in and purchases discounts. The sales discounts are often allocated on the basis of sales volume.

Allocation of Indirect Expenses to Departments

In order to allocate indirect expenses, such as store rent or advertising, to departments, the accountant must choose the proper basis of allocation, or *factor of variability*. A factor of variability is a common denominator that reasonably and equitably reflects the relationship between a joint expense (an expense affecting more than one department)

and the departments it serves. The following are a few examples of indirect expenses and suggested bases of allocation:

Expense Item	Basis of Allocation (Factor of Variability)
Store rent	Square footage of space occupied.
Advertising	Net sales in each department; or the size and class of newspaper or other media space purchased. A single advertisement for one department, of course, is a direct departmental expense.
Payroll taxes	Gross taxable payroll in each department.
Insurance on building and equipment	Property valuation.
Depreciation of store equipment	Property valuation.
Light	Rated kilowatt hours of the fixtures in each department.
Heat	Cubic foot of space occupied by each department.

Example: A retail drug store occupies an area 40 ft. by 30 ft., or 1,200 sq. ft. The yearly rental of $1,800 is allocated to the four departments as follows:

Department	Square Feet	%	Allocation
Tobacco, newspapers	180	15	$ 270
Prescriptions	300	25	450
Patented drugs	600	50	900
Ice cream and candy	120	10	180
Totals	1,200	100	$1,800

The Contribution Theory of Expense Allocation

The "Contribution Theory" of expense allocation is a theory expressed by some accountants that only those expenses that are directly related to the production of departmental revenue should be taken into account in preparing an income statement by departments. The excess of the departmental revenue over the cost of sales and direct expense is a "contribution" of the department to the indirect or unallocated expenses and to the net income.

One reason for criticizing the reliability of a departmental *net* income figure, referred to several times in preceding sections of this chapter, is the difficulty of determining a reliable basis of allocation. Another reason is that the clerical task of allocating many expenses among many departments is so time-consuming that the information is received too late by management for effective use. These are rather negative rea-

sons for the Contribution Theory. But a positive reason is that management usually wants to know how much each department is contributing to the net income of an enterprise. However, both forms of presentation, as will be observed in studying the income statements on pages 578 and 580—the departmental statement of net income on a complete allocation basis and the departmental statement on a direct cost or "contribution" basis—have a place in the financial reporting to management. A complete allocation statement may become more widely used in the future with advances in the knowledge of scientific management and the use of automation. What has hitherto been virtually an insolvable problem in expense analysis is now possible and even practicable. With present-day office equipment, the accountant has the tools with which to allocate indirect expenses accurately and quickly, providing there is a sound basis for the allocation.

The Departmental Worksheet

The worksheet is a very effective device to assist the accountant in bringing together the many departmental revenue and expense accounts. This is particularly so when there are several expense allocations to be made before the net income can be determined. In the following illustration, the allocation entries are made on the worksheet only, without the formality of entry in the general journal.

Illustration of a Departmental Worksheet The worksheet on the following pages was prepared for a retail drug store. To focus attention primarily upon the allocation entries, all adjusting entries are presumed to have been made. The illustrated worksheet starts with an adjusted trial balance. All expenses are allocated to the departments.

The data for the ending inventories and the allocation entries appears below:

Ending Inventories, December 31, 19—:

Tobacco, newspapers, and magazines	$ 860
Bulk chemicals	5,400
Patented drugs and cosmetics	8,740
Ice cream and candy	500

(1) The pharmacist estimates that he devotes ¾ of his time to compounding prescriptions and the balance of his time (¼) between the tobacco and patented drug departments.

(2) The salesclerks' wages are divided equally among the tobacco, patented drugs, and ice cream and candy departments.

(3) The store rent is allocated on the basis of square footage. (Refer to page 572.)

A RETAIL DRUG STORE

Adjusted Trial Balance Worksheet, for the year ended December 31, 19—

	Adjusted Trial Balance		Tobacco, News, Magazines		Prescriptions		Patented Drugs and Cosmetics		Ice Cream, Candy		Income Summary		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Inventories:														
Tobacco, etc.	670		670	860									860	
Bulk chemicals	4,500				4,500	5,400							5,400	
Patent drugs, etc.	9,430						9,430	8,740					8,740	
Ice cream, candy	400								400	500			500	
Other Current Assets (details omitted)	2,000												2,000	
Store Fixtures:														
Tobacco dept.	1,200												1,200	
Allow. for depr.		120												120
Prescriptions dept.	4,000												4,000	
Allow. for depr.		400												400
Patent drugs dept.	5,000												5,000	
Allow. for depr.		500												500
Ice cream, candy dept.	1,800												1,800	
Allow. for depr.		180												180
Liabilities (details omitted)		2,400												2,400
Capital Stock		21,000												21,000
Sales:														
Tobacco, etc.		15,000		15,000										
Prescriptions		18,000				18,000								
Drugs, cosmetics		21,000						21,000						
Ice cream, candy		6,000								6,000				

Sales Returns, Allowances:														
Tobacco, etc.	150		150											
Prescriptions	180				180									
Drugs, cosmetics	210						210							
Ice cream, candy	60								60					
Purchases:														
Tobacco, etc.	12,000		12,000											
Bulk chemicals	8,000				8,000									
Patented drugs, etc.	15,000						15,000							
Ice cream, candy	4,000								4,000					
Purchases Returns, Allowances:														
Tobacco, etc.		100		100										
Bulk chemicals		200				200								
Patented drugs, etc.		225						225						
Ice cream, candy		75								75				
(1) Wages—Pharmacist	8,000		1,000		6,000		1,000							
(2) Sales Clerks' Wages	3,000		1,000				1,000		1,000					
(3) Store Rent	1,800		270		450		900		180					
(4) Advertising	200		50		60		70		20					
(5) Delivery Expense	180		45		54		63		18					
(6) Depreciation—														
Store fixtures	1,200		120		400		500		180					
Other Expenses (details omitted—allocated on the basis of net sales)	2,220		555		666		777		222					
TOTALS FORWARDED	85,200	85,200	15,860	15,960	20,310	23,600	28,950	29,965	6,080	6,575			29,500	24,600

A RETAIL DRUG STORE (*Continued*)

	Adjusted Trial Balance		Tobacco, News, Magazines		Prescriptions		Patented Drugs and Cosmetics		Ice Cream, Candy		Income Summary		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Totals brought forward			15,860	15,960	20,310	23,600	28,950	29,965	6,080	6,575			29,500	24,600
Net Income—Tobacco, news, magazines			100									100		
			15,960	15,960										
Net Income—Prescriptions					3,290							3,290		
					23,600	23,600								
Net Income—Patented drugs and cosmetics							1,015					1,015		
							29,965	29,965						
Net Income—Ice cream and candy									495			495		
									6,575	6,575		4,900		
Federal Income Tax											1,470			1,470
NET INCOME											3,430			3,430
											4,900	4,900	29,500	29,500

Note: Attention is directed to the alternative manner of showing inventories. Both beginning and ending inventories are entered on the same line; the beginning inventory as a debit to the departmental income; and the ending inventory as a credit to the departmental income and a debit on the balance sheet. This procedure is very little different from the manner of showing the inventories on the worksheet illustrated on page 49.

(4), (5) Advertising and delivery expense are allocated on the basis of net sales as follows:

Department	Net Sales	%	Advertising	Delivery Expense
Tobacco, magazines	$14,850	25	$ 50	$ 45
Prescriptions	17,820	30	60	54
Patented drugs	20,790	35	70	63
Ice cream, candy	5,940	10	20	18
Totals	$59,400	100	$200	$180

(6) Depreciation on the store equipment is figured at the rate of 10% of the cost of the equipment in each department.

Departmental Statement of Net Income

The departmental statement of net income is one of the most valuable financial statements the accountant can prepare for management. The statement on the next page, prepared from the worksheet illustrated on the preceding page, shows the revenue, cost of sales, gross profit, expenses, and net income for each department, as well as the combined net income. One result that stands out from this statement is that the tobacco, magazine, and newspaper department produced a net income of only $100 from sales of $15,000. The prescription department sales are $18,000, one-fifth more than the tobacco department. Yet, the prescription department produced a net income of $3,290, or almost thirty-three times as great as the net income of the tobacco department. Perhaps the pharmacist's and clerks' wages totaling $2,000 charged to the tobacco department could be used more profitably elsewhere in the store, and the tobacco department placed on a "self-service" arrangement with the customers. Without a detailed statement of this type, the management would not have an accurate knowledge of the relative profitability of the departments; and without knowledge, intelligent action cannot be taken.

Usually a departmental statement of net income is restricted to management's attention only. Seldom is a statement of this type distributed among the stockholders. The principal reason for restricting the distribution of a departmental statement of net income is that it reveals the most intimate details of a concern's operations. Because this information is confidential, its distribution is therefore limited.

Departmental Statement Based on the Contribution Theory The departmental statement on the following page is prepared from the same information as the preceding statement. In this statement, the sales,

A RETAIL DRUG STORE
Departmental Income Statement
For the Year Ended December 31, 19—

	Tobacco, News, and Magazines		Prescriptions		Patented Drugs and Cosmetics		Ice Cream and Candy		Totals	
Sales		$15,000		$18,000		$21,000		$6,000		$60,000
Returned sales and allowances		150		180		210		60		600
Net Sales		$14,850		$17,820		$20,790		$5,940		$59,400
Cost of Goods Sold:										
Inventory, January 1, 19—	$ 670		$ 4,500		$ 9,430		$ 400		$15,000	
Purchases	12,000		8,000		15,000		4,000		39,000	
Purchases returns and allowances	(100)		(200)		(225)		(75)		(600)	
Total merchandise for sale	$12,570		$12,300		$24,205		$4,325		$53,400	
Inventory, December 31, 19—	860	11,710	5,400	6,900	8,740	15,465	500	3,825	15,500	37,900
Gross Profit		$ 3,140		$10,920		$ 5,325		$2,115		$21,500
Operating Expenses:										
Selling Expenses:										
Wages—Pharmacist *	$ 1,000		$ 6,000		$ 1,000				$ 8,000	
Wages—Salesclerks	1,000				1,000		$1,000		3,000	
Store rent	270		450		900		180		1,800	
Advertising	50		60		70		20		200	
Delivery expense	45		54		63		18		180	
Depreciation—store equipment	120		400		500		180		1,200	
Total Selling Expense	$ 2,485		$ 6,964		$ 3,533		$1,398		$14,380	
Other Expenses (details omitted)	555	3,040	666	7,630	777	4,310	222	1,620	2,220	16,600
Net Income before Federal Income Tax		$ 100		$ 3,290		$ 1,015		$ 495		$ 4,900
Federal income tax †										1,470
NET INCOME										$ 3,430

* Some accountants may prefer to include the pharmacist's wages as part of the Cost of Goods Sold. This point is discussed in Chapter 26.
† In this illustration, the Federal Income Tax may also be allocated to the departments.

cost of sales, gross profit, and *direct departmental expenses* are shown for each department. The resulting figure for each department is termed the "Contribution to the Indirect Expenses." The principal difference between this statement and the preceding one is that the indirect expenses (store rent, advertising, delivery expense, depreciation, and other expenses), totaling $5,600, are not allocated to the departments. The principal reason, as explained on page 572, is that the basis of allocation of the indirect expenses may not be accurate. The departmental net income figures, therefore, may be misleading. For example, the allocation of the Other Expenses ($2,220) on the basis of net sales in the above illustration was estimated, and, as it frequently happens, an estimate of this kind may be a hurried guess.

The value of the departmental "contribution" statement is that it points out how much sales revenue earned by each department is left after deducting the *direct* expenses incurred in earning the revenue. The balance of the revenue is a contribution to the *indirect* expenses. If a department contributes nothing to the indirect expenses, and cannot cover its direct expenses, it may have to be dropped unless it can be improved or unless it is being carried to attract customers. However, if a department is meeting its direct expenses and contributing something to the indirect expenses, it should be retained even though it is contributing very little in comparison with the other departments. The Tobacco department is an example. While it is earning a very small net income of $100 (from the statement on page 578), it is contributing $1,140 to the indirect expenses. If the tobacco department were dropped, the other departments would have to absorb the $1,140.

Both of the preceding income statements tell the same story, but in a different way. In many business enterprises, accountants prepare both forms of income statements for management.

Interim Statements The worksheet and income statements illustrated in this chapter assumed a fiscal year. The ending inventories were presumed to be determined by an end of the year physical inventory. In order to supply management with statements more frequently, at least monthly, the accountant must estimate the month-end inventories. It would not be practical in most cases to take a physical inventory every month. Inventories may be estimated by the "Retail Inventory Method," or the "Gross Profit Method." These methods are described in Chapter 17. When the books of account and the records are designed to provide departmental figures, the inventory estimates will be more nearly accurate. The reason is that departments will usually be segregated by product-lines, each of which has its own rate of gross profit. A prior year's average rate of gross profit for an enterprise made up of several departments, having widely varying rates of gross profit, would be in-

A RETAIL DRUG STORE
Departmental Income Statement
For the Year Ended December 31, 19—

	Totals		Tobacco, News, and Magazines		Prescriptions		Patented Drugs and Cosmetics		Ice Cream and Candy	
Sales		$60,000		$15,000		$18,000		$21,000		$6,000
Sales returns and allowances		600		150		180		210		60
Net Sales		$59,400		$14,850		$17,820		$20,790		$5,940
Cost of Goods Sold:										
Inventory, January 1, 19—	$15,000		$ 670		$ 4,500		$ 9,430		$ 400	
Purchases	39,000		12,000		8,000		15,000		4,000	
Purchases returns and allowances	(600)		(100)		(200)		(225)		(75)	
Total merchandise for sale	$53,400		$12,570		$12,300		$24,205		$4,325	
Inventory, December 31, 19—	15,500	37,900	860	11,710	5,400	6,900	8,740	15,465	500	3,825
Gross Profit		$21,500		$ 3,140		$10,920		$ 5,325		$2,115
Direct Expenses:										
Wages—Pharmacist	$ 8,000		$ 1,000		$ 6,000		$ 1,000			
Wages—Salesclerks	3,000	11,000	1,000	2,000		6,000	1,000	2,000	$1,000	1,000
Contribution to the indirect costs and expenses		$10,500		$ 1,140		$ 4,920		$ 3,325		$1,115
Indirect expenses—Unallocated:										
Store rent	$ 1,800									
Advertising	200									
Delivery Expense	180									
Depreciation—Store equipment	1,200									
Other expenses (details omitted)	2,220	5,600								
Net Income before Federal Income Tax		$ 4,900								
Federal Income Tax		1,470								
NET INCOME		$ 3,430								

accurate if applied to the current year when the mixture of sales and rates of profit may have changed.

QUESTIONS

1. Why is departmentalization so important in our present-day economy?
2. In what way does departmentalization enable management to reach its objective?
3. What are the essential features of a departmentalized system of accounting?
4. What are some of the ways cash sales are handled in retail stores?
5. Give several examples of direct and indirect departmental expenses.
6. What are the problems in handling freight-in and purchases discounts in setting up a departmental accounting system?
7. What is meant by the term "factor of variability"?
8. Describe the essential features of the "Contribution Theory" of expense allocation.
9. Is there any value in preparing two departmental statements—one on a complete expense allocation basis and the other on the basis of direct costs charged to departments only?

PROBLEMS

Problem 25-1

A creamery operates four income-producing departments housed in a single building. The following are the results of the operations for the year 1962:

	DAIRY PRODUCTS	EGG CANDLING	POULTRY	COLD STORAGE RENTALS
Revenue	$500,000	$400,000	$300,000	$200,000
Expenses:				
Direct	$300,000	$200,000	$150,000	$ 5,000
Fixed (allocated)	100,000	50,000	50,000	200,000
Total expenses	$400,000	$250,000	$200,000	$205,000
Net Income	$100,000	$150,000	$100,000	$ (5,000)

Required:

(A) Recast the above statement according to the "Contribution Theory."

(B) The company is concerned about the net loss in the Cold Storage Rental Department. What alternatives are there to reduce the loss?

Problem 25-2

The gross profit on sales of Hi-Jacks Auto Agency for the year ended December 31, 1962, is as follows:

New and used cars	$100,000
Repairs and accessories	50,000
Total	$150,000

The following analysis has been prepared relative to the direct departmental and the indirect expenses for the year.

	DIRECT DEPARTMENTAL EXPENSE		
	Auto sales	Repairs	Indirect expense
Salaries and wages	$30,000	$16,000	$21,000
Building rental			24,000
Advertising	10,000	5,000	
Insurance			5,000
Utilities			10,000
Supplies	4,000	6,000	

Required:

(A) Prepare a statement showing the net income by departments. The indirect expenses are to be allocated using the following bases:

(1) Salaries	Gross profit.
(2) Building rental	Auto sales 10,000 sq. ft.; repairs and accessories 20,000 sq. ft.
(3) Insurance	Auto sales 75%; repairs and accessories 25%.
(4) Utilities	Auto sales 50%; repairs and accessories 50%.

(B) Prepare an income statement based on the "Contribution Theory."

Problem 25-3

The following is the balance sheet of the Ken-L Supply Co., distributors of dog foods and supplies, as of January 1, 1962:

KEN-L SUPPLY CO.
Balance Sheet
January 1, 1962

Assets			
Current Assets:			
Cash		$ 3,600	
Accounts receivable		2,500	
Inventories:			
Dog food	$ 5,000		
Accessories	18,000	23,000	
Prepaid insurance		400	
Total Current Assets			$29,500
Fixed Assets:			
Store fixtures		$ 3,500	
Allowance for depreciation		1,200	2,300
Total Assets			$31,800
Liabilities and Owners' Equity			
Current Liabilities:			
Accounts Payable			$8,100
Owners' Equity:			
Henry Adams, Capital		$11,850	
Robert Baker, Capital		11,850	23,700
Total Liabilities and Owners' Equity			$31,800

The following transactions occurred during January, 1962:

1. Opened a new department, the "Doggie Tonsorial Parlor," and bought new equipment, furniture, and fixtures for the department costing $5,000, on account, on January 2. Record all other transactions as of January 31.
2. Purchases during the month on account:

Dog foods	$4,000
Accessories	6,000
Soaps and other supplies for the tonsorial dept.	3,000

3. Salaries and wages for the month paid:

Dog food clerks	$800
Accessory salesmen	800
Dog attendants	800

4. Provide for accrual of employers' payroll excise taxes of 5%.
5. Store rent paid $1,200
   (Occupied 20% by Dog Food Department; 30% by Accessory Department, and 50% by the Tonsorial Department.)
6. Utilities paid. $400
   (Allocate on the same basis as rent.)
7. Payments on account $13,000
8. Sales during the month:

	Cash Sales	Sales on Account
Dog food	$ 3,000	$1,000
Accessories	4,000	2,000
Tonsorial	5,000	1,000
	$12,000	$4,000

   Add 1% sales tax.
9. Receipts from customers on account. $4,000
10. Each partner drew $1,000 for the month.
11. Provide for depreciation using the following monthly rates:

    1% on store fixtures owned at January 1, 1962 (allocate 50–50); 2% on equipment acquired during January.

12. Write off $100 of prepaid insurance; allocating 20% to Dog food; 30% to Accessories and 50% to the Tonsorial Dept.

Required:

(A) Enter the January 1, 1962, balance sheet figures in T accounts.
(B) Design sales and cash receipts journals as illustrated in the text.
(C) Design departmental distribution ledger accounts for store rent and utilities, similar to those illustrated in the text.
(D) Journalize the entries for January. Enter all transactions, other than sales and cash receipts in a general journal.
(E) Prepare a departmental worksheet as of January 31, 1962. As this is an interim work sheet, physical inventories are not available. The

inventories as of January 31, 1962, must be estimated using the gross profit methods based on the following rates:

Dog food dept.	30%
Accessories dept.	50%
Tonsorial dept.	No inventory on January 31st.

SUPPLEMENTARY PROBLEMS

Problem 25-4

A company anticipates its sales for the coming year to be $1,750,000. The company markets two products, A and B, which sell at a gross profit of 55% and 20%. Of the operating expenses, $350,000 are expected to be fixed and 10% variable.

Required:

(1) Determine the amount of sales of products A and B necessary to produce a net income of 5%, based on sales of $1,750,000.
(2) Determine the amount of sales necessary to break even (based on figures in part 1).

(Form 3)

Problem 25-5

Using the figures in the preceding problem (25-4),

Prepare:

(1) An income statement showing the net income by products. The fixed expenses are allocated to products on the basis of sales.
(2) An income statement based on the "Contribution Theory."

(Form 8)

26

Manufacturing Accounting

Nature of the Manufacturing Process

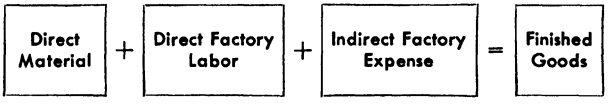
The illustrations in the preceding chapters of this text have been designed to show the operations of business enterprises that either sell services or merchandise. A trading concern sells the same merchandise that it buys. It does not change the nature of the product, though it may change the form by repackaging. A manufacturing enterprise, on the other hand, differs in this respect: the products that it buys are basically changed or *converted* into other products before selling. The manufacturing or conversion process is accomplished by transforming a material or materials through the application of labor, machinery, and management to produce a new product or products. The products or materials bought by a manufacturing concern for conversion are called *raw materials* or *direct materials.* The converted products are called *finished goods.* The finished goods of one manufacturer therefore may be the raw materials of another manufacturer if the manufacturing process is viewed in broad perspective.

The manufacturing process may be carried on in small shops in which only one man may be employed, or in huge factories employing thousands of workers. Most factory workers are employed by manufacturing organizations that have combined several factories through the *vertical* or *horizontal integration* of several manufacturing operations. A vertical integration of factories may combine many manufacturing operations, from the production of raw materials at their source to the fabrication of a finished product to be sold to the ultimate consumer. In this way, the enterprise is assured of its sources of supply. An example of a vertical integration is a steel company owning its own ore fields as well as mills in which the ore is transformed into steel, and into products made from steel, such as prefabricated houses. A horizon-

tal integration combines several factories all making the same or similar products. An advantage of this form of integration is that its factories are located in several markets, thereby saving much of the transportation costs that are incurred in shipping from one factory to a widespread market. An example of horizontal integration is a soft-drink manufacturing and bottling company that has several plants in several communities.

By comparing the functions of a trading enterprise with those of a manufacturing enterprise, it can be seen that the manufacturing enterprise performs an additional function or utility. The additional function, which has been termed conversion, necessitates additional accounting records and accounts, and an additional financial statement, the "Statement of Cost of Goods Manufactured." The other functions that are performed by all enterprises, namely, financing, selling, and administrating, are accounted for by the manufacturing concern in the same manner as in the trading or service enterprise.

DIAGRAM OF THE MANUFACTURING PROCESS



Basic Terminology A clear understanding of the accounting for a manufacturing concern depends upon a knowledge of the basic terminology used in manufacturing accounting. These basic terms are defined as follows:

Direct materials are those materials that are physically identified with a finished product, e.g., the lumber used in making a piece of furniture, or the chemicals in a chemical compound.

Direct labor is a class of factory labor that changes the size, shape, or form of direct material into a finished product, e.g., a carpenter fabricating furniture, a machine operator fabricating a metal part, or the operator of a bottling machine in a soft-drink plant.

Indirect factory expense, also termed *manufacturing overhead,* comprises all the other expenses incurred within the factory. These expenses are essential to the manufacturing process, but they are difficult to identify directly with a manufactured product. They consist of:

(a) *Indirect materials and supplies,* such as the sandpaper used by carpenters, abrasive wheels used to sharpen tools, and oils and greases to lubricate machinery. In some cases, where only a small amount of direct material is used on a unit of finished product, such as the glue or nails used to assemble furniture, the direct material is treated as indirect material. The principal difference in accounting is that indirect materials are *allocated* to

the cost of a finished product using some basis of proration; whereas direct materials are specifically measured. The problem of the classification of direct and indirect expense, and the further problem of prorating indirect expenses, is discussed in greater detail in Chapter 27. Some aspects of the problem of proration were described in Chapter 25.

(b) *Indirect labor and supervision* comprises all other forms of labor performed in a plant that are not performed directly on the product being manufactured, e.g., the labor of the factory foreman and the labor performed by maintenance, repair, safety, and plant protection workers. Another category of indirect labor are the many costs of labor, termed "fringe benefits" or "labor-related costs." Examples are payroll taxes, vacation and holiday payments, overtime premium payments, periodic payments to a pension fund, and employee welfare expenses. The labor-related costs associated with indirect labor, e.g., the payroll taxes on the foreman's wages, are indirect labor expenses. The labor-related costs associated with direct labor, e.g., the payroll taxes on a machine operator's wages, are frequently treated as part of the cost of direct labor. Some companies, however, find it more expedient to treat all labor-related costs as indirect labor costs.

(c) *Outside service charges* consist, for example, of the cost of the utilities of water, light, heat, and power used in the operations of the factory.

(d) *Fixed charges* are those expenses (described in Chapter 15) that do not vary with the amount of production, e.g., the rent paid for the use of the factory building, the insurance premiums, property taxes, and depreciation of the factory building and equipment.

Work in Process is an inventory account in which the costs of direct material, direct labor, and indirect factory expense of incomplete work are accumulated.

Prime cost is the total cost of direct material and direct labor.

Conversion cost is the total cost of direct labor and indirect factory expense.

Factory cost is the total cost of the direct material, direct labor, and indirect factory expense.

Cost of goods manufactured is the total of the factory cost, plus the beginning inventory of work in process, minus the ending inventory of work in process.

Cost of goods sold is the total of the cost of goods manufactured plus the beginning inventory of finished goods, minus the ending inventory of finished goods.

The Flow of Manufacturing Costs

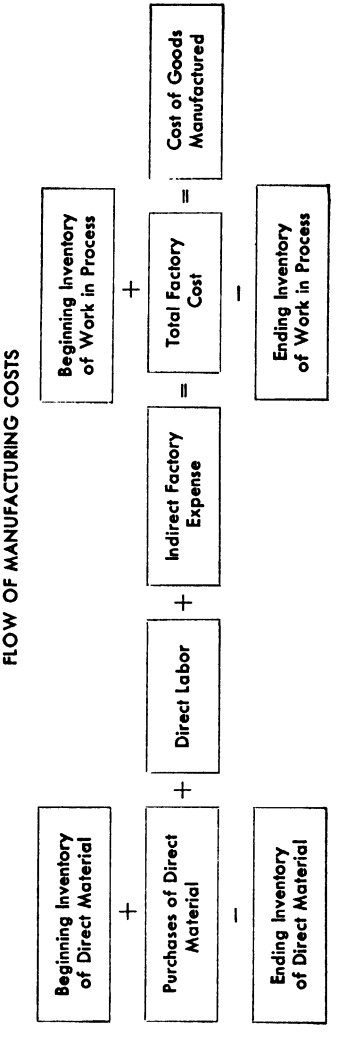
The diagram on page 589 broadly illustrates the flow of costs as they pass from one general ledger account to another, culminating in the Statement of Cost of Goods Manufactured. The accounting for the flow of costs corresponds in a general way to the actual transfer of direct materials from the time they are purchased until they are converted into a finished product ready for sale.

Chart of Accounts for a Manufacturing Enterprise The chart of accounts listed below does not differ essentially from that prepared for any other form of business enterprise. Specific differences to be noted are the addition of factory cost accounts and additional inventory accounts. Whereas, a trading concern has only one inventory account for unsold merchandise, a manufacturing concern has three inventory accounts, each representing a stage through which the direct materials pass to be manufactured into finished goods for sale. The three inventory accounts are: (1) Direct Material, (2) Work in Process, and (3) Finished Goods.

In the following chart of accounts, only the main categories of accounts are listed, together with a few illustrations of specific manufacturing accounts. Each account is numbered for easy reference and cross-indexing. The number or coding system used in this illustration is suggestive of only one of many systems that are in practical operation. Any coding system, however, should provide for expansion as well as a means of classifying related accounts. The general plan followed in the chart of accounts illustrated below is outlined as follows:

Class of Accounts	Series Number Assigned
Assets	100
Liabilities	200
Owners' equity	250
Sales and related accounts	300
Manufacturing accounts	400
Selling expenses	500
General expenses	600
Other income accounts	700
Other expense accounts	800
Closing accounts	900

The numbering of an account is accomplished by first identifying it as being one of the foregoing classes of accounts and assigning the first number of the class to the account, e.g., all asset accounts are given the figure "one" as the first number in a series of numbers; all liabilities and the owners' equity accounts are coded initially with the figure "two," and so on. A second and a third digit permits expansion within the


FLOW OF MANUFACTURING COSTS
Beginning Inventory of Direct Material
+
Purchases of Direct Material
−
Ending Inventory of Direct Material
+
Direct Labor
+
Indirect Factory Expense
=
Total Factory Cost
+
Beginning Inventory of Work in Process
−
Ending Inventory of Work in Process
=
Cost of Goods Manufactured

A MANUFACTURING COMPANY
Chart of Accounts

Assets (100–199)	Account Numbers
Current Assets (100–129)	
Petty cash	100
Cash in bank	101
Investments (short-term)	105
Accounts receivable—Customers	110
Allowance for doubtful accounts	110.1
Notes receivable	112
Inventories:	(120)
Direct material	120.1
Work in process	120.2
Finished goods	120.3
Prepaid insurance	125
Factory supplies	127
Investments (details omitted)	130–139
Fixed Assets (140–159)	
Land	140
Buildings	141
Allowance for depreciation—Buildings	141.1
Machinery and equipment	142
Allowance for depreciation—Machinery and equipment	142.1
Office equipment	143
Allowance for depreciation—Office equipment	143.1
Motor vehicles and aircraft	144
Allowance for depreciation—Motor vehicles and aircraft	144.1
Patents	148
Allowance for amortization—Patents	148.1
Goodwill	150
Deferred Charges (160–169)	
Organization expense	160
Liabilities and Owners' Equity (200–299)	
Current Liabilities (200–229) (selected accounts illustrated)	
Accounts payable	200
Notes payable	202
Accrued wages	201
Accrued interest payable	203
Employees' income tax withheld	204
Employees' FICA tax withheld	205
Accrued unemployment tax	206
Provision for Federal income tax	210
Fixed Liabilities (details omitted)	230–239
Owners' Equity (240–249)	
Capital stock	240
Retained earnings	241
Dividends declared	242
Sales and Related Accounts (300–319)	
Sales	300
Sales returns and allowances	300.1
Sales discounts	301
Manufacturing Accounts (400–499)	
Direct material purchases	400
Direct material purchases returns and allowances	400.1
Freight-in	401
Purchases discounts	402
Direct labor	410
Indirect factory expense control:*	420
Indirect labor	421

* A further classification may be accomplished by the addition of a decimal, e.g., Indirect labor may be further classified as 421.1 for Foremen's wages, and so on.

A MANUFACTURING COMPANY
Chart of Accounts
(Continued)

	Account Numbers
Indirect materials and supplies	422
Utilities	423
Depreciation of machinery and equipment	424
Depreciation of factory building	425
Insurance	430
Taxes	435
Small tools	440
Factory office expense	450
Repairs and maintenance	460
Selling Expenses (500–599)	
Selling expense control:	500
Salesmen's salaries	501
Advertising	505
Commissions	515
Depreciation of delivery equipment	524
Freight-out	528
Insurance	530
General Expenses (600–699)	
General expense control:	600
Officer's salaries	601
Office salaries	602
Bad debts	605
Bank charges	610
Depreciation of office equipment	624
Insurance	630
Taxes	635
Telephone and telegraph	640
Other Income Accounts (700–799)	
Interest income	700
Gain-loss sale of capital assets	701
Sale of scrap	702
Miscellaneous income	790
Other Expense Accounts (800–899)	
Interest expense	800
Closing Accounts (900–999)	
Manufacturing summary	900
Income summary	910

main classes of accounts: e.g., cash is coded 101; short-term investments, 105; and so on. Further expansion is provided in two ways—by leaving unassigned numbers and by using decimal digits for sub-accounts and contra accounts.

Financial Statements of a Manufacturing Enterprise [1]

The principal financial statements of a manufacturing enterprise are illustrated on the following pages. The statement of the cost of goods

[1] The accounts shown in the following statements are not based on the preceding Chart of Accounts.

manufactured is illustrated first to emphasize its importance in this chapter. In a financial report, the order in which the statements usually appear is as follows:

Balance Sheet	Exhibit A
Statement of Retained Earnings	Exhibit B
Income Statement	Exhibit C
Statement of Cost of Goods Manufactured	Exhibit D
Schedule of Indirect Factory Expense	Schedule D-1

The order of the arrangement of the accounts in the statement of cost of goods manufactured (Exhibit D) varies according to the position given to the work in process inventories (beginning and ending) and the extent of the detail to be fitted into the statement. The statement of the cost of goods manufactured illustrated as follows logically follows the flow of the direct material through the factory, as depicted in the diagrams on pages 586 and 589. Another arrangement would be to start the statement with the beginning inventory of work in process to bring attention first to the cost of incomplete work brought forward from the previous period. The schedule of indirect factory expense (Schedule D-1) is shown separately. The few expenses itemized in this example could have been shown as part of the statement of cost of goods manufactured without extending the statement unduly.

A MANUFACTURING COMPANY — Exhibit D

Statement of Cost of Goods Manufactured

For the Year Ended December 31, 19—

Direct Material Used:				
Inventory, January 1, 19—			$ 50,000	
Purchases of direct material		$200,000		
Returns and allowances	$5,000			
Purchases discounts	2,000	7,000		
Net purchases		$193,000		
Freight-in		20,000	213,000	
			$263,000	
Inventory, December 31, 19—			55,000	$208,000
Direct Labor				250,000
Indirect Factory Expense (Schedule D-1)				250,000
Total Factory Cost				$708,000
Work In Process inventory, January 1, 19—				75,000
				$783,000
Work In Process inventory, December 31, 19—				70,000
Cost of Goods Manufactured				$713,000

A MANUFACTURING COMPANY — Schedule D-1

Schedule of Indirect Factory Expense

For the Year Ended December 31, 19—

Indirect labor	$ 75,000
Indirect materials and supplies	65,000
Depreciation of factory equipment	25,000
Depreciation of factory building	20,000
Pension plan contribution	13,000
Taxes—Payroll	11,000
Taxes—Property	10,000
Power	9,000
Light and heat	7,000
Repairs and maintenance	6,000
Insurance	5,000
Plant protection	4,000
Total	$250,000

A MANUFACTURING COMPANY — Exhibit A

Balance Sheet

December 31, 19—

Assets

Current Assets:			
Cash		$ 10,000	
Accounts receivable	$ 51,000		
Allowance for doubtful accounts	1,000	50,000	
Inventories:			
Direct material	$ 55,000		
Work in process	70,000		
Finished goods	35,000	160,000	
Prepaid expenses		6,000	
Total Current Assets			$226,000
Fixed Assets (details omitted)			400,000
Total Assets			$626,000
Liabilities and Owners' Equity			
Current Liabilities (details omitted)			$133,400
Owners' Equity:			
Capital stock—common, 4,000 shares authorized, issued, and outstanding, $100 par value		$400,000	
Retained earnings		92,600	492,600
Total Liabilities and Owners' Equity			$626,000

A MANUFACTURING COMPANY — **Exhibit B**

Statement of Retained Earnings
For the Year Ended December 31, 19—

Retained earnings, January 1, 19—	$ 85,000
Net income (Exhibit C)	12,600
Total	$ 97,600
Dividends declared	5,000
Retained earnings, December 31, 19—	$ 92,600

A MANUFACTURING COMPANY — **Exhibit C**

Income Statement
For the Year Ended December 31, 19—

Sales		$900,000
Cost of Goods Sold:		
Finished goods inventory, January 1, 19—	$ 40,000	
Cost of Goods Manufactured (Exhibit D)	713,000	
Total	$753,000	
Finished goods inventory, December 31, 19—	35,000	718,000
Gross Profit		$182,000
Operating Expenses (details omitted)		164,000
Net Income before Federal Income Tax		$ 18,000
Federal Income Tax		5,400
Net Income		$ 12,600

Manufacturing Accounting Procedures

The manufacturing accounting procedures described in this chapter differ in three important respects from the manufacturing accounting procedures described in the following chapter devoted to cost accounting.

1. The accounting for inventories in this chapter is based on the physical inventory method; in the following chapter, inventories are accounted for by the perpetual inventory method. The fundamentals of both methods of accounting for inventory have previously been described in Chapters 3 and 17.

2. The flow of costs through the general ledger accounts, as described in this chapter, does not parallel exactly the flow of the product from the raw material to the finished product stage. This follows from the first point referred to above. Under the physical inventory method, the cost of goods manufactured cannot be determined until a physical inventory of the direct material and work in process has been taken. The final cost, therefore, is not accurately known until the end of the month,

or the end of the year when inventories are usually taken. In Chapter 27, the cost of materials taken from the storeroom for conversion into a finished product in the factory is recorded at the time materials are released. It is not necessary to wait and take an inventory to determine the cost of materials used by subtracting the cost of materials on hand from the cost of materials available.

3. In this chapter, no record is made of the cost of a sale at the time of sale. Only the selling price is recorded in the sales journal. In the following chapter, the cost of the sale is recorded at the same time as the sale.

A cost accounting system generally requires more detailed records, as the description of the accounting procedures in Chapter 27 will point out. On the other hand, the procedures described here have been found to be adequate by many manufacturing concerns that do not wish to incur the additional time and expense that a cost accounting system will usually impose.

Illustration of Manufacturing Accounting Procedures The illustration on page 596 sets forth the essential records required to account for the periodic costs of manufacturing. Only those journals and ledgers are illustrated that are necessary to provide the information from which the statement of cost of goods manufactured is prepared. Other journals, such as the cash receipts journal, the cash disbursements journal, and the sales journal are not illustrated. They are basically the same for a manufacturing enterprise as they are for a trading concern.

Attention is directed primarily to the voucher register and the general journal on page 596. These journals are the sources of the manufacturing accounting entries. Special columns have been added for the purpose of accumulating manufacturing costs, e.g., the voucher register has columns for direct material, direct labor, and indirect factory expense; the general journal has a special column for indirect factory expense because many transactions of this kind are made in the form of month-end adjusting entries.

On page 590, Account Number 420, Indirect Factory Expense, is described as a control account. When an expense is incurred, for example, for indirect labor, such as the payment of the foremen's wages, an entry is made in the voucher register, debiting Account 421, Indirect Labor. The debit is entered in the column headed Indirect Factory Expense. At the end of the month, or daily if desired, the specific indirect factory expenses are posted to a *subsidiary indirect factory expense ledger* from the voucher register and from the general journal. Also, at the end of the month, the totals of the indirect factory expense columns in both the voucher register and general journal are posted to Account 420, Indirect Factory Expense control.

Voucher Register *

Month of December 19__

Date	Vo. No.	Creditor	Accounts Payable Cr.	Purchases Direct Material Dr.	Freight-In Dr.	Direct Labor Dr.	Indirect Factory Expense A/C No.	Indirect Factory Expense Amount Dr.	Explanation
19__									
Dec. 15	9875	Inter Steel Co.	10,000	10,000					Purchases of steel
15	9876	Interstate Truck Co.	200		200				Freight on steel
15	9877	Payroll—second week	5,000			4,000	421	1,000	Payroll
15	9878	Die Supply Co.	3,000				422	3,000	Factory supplies
		Monthly totals	57,800 (200)	15,000 (400)	1,800 (401)	20,000 (410)		21,000 (420)	

GENERAL LEDGER

Accounts Payable A/C 200

	57,800

Purchases Direct Material A/C 400

15,000	
200,000	

Freight-In A/C 401

1,800	
20,000	

Direct Labor A/C 410

20,000	
250,000	

Indirect Factory Expense Control A/C 420

VR 21,000	
GJ 8,000	
250,000	

Allowance for Depreciation A/C 142.2

	2,000

SUBSIDIARY EXPENSE LEDGER

Indirect Labor A/C 421

VR 1,000	
75,000	

Indirect Materials A/C 422

VR 3,000	
65,000	

Depreciation Factory Equipment A/C 424

GJ 2,000	
25,000	

General Journal

Date	Account Titles	A C No.	General Ledger Dr.	General Ledger Cr.	Indirect Factory Expense A/C No.	Indirect Factory Expense Amount
19__						
Dec. 31	Depreciation—factory equipment				424	2,000
	Allowance for depreciation on factory equipment	142.2		2,000		
	To record depreciation of factory equipment for the month of December.				Monthly Total	8,000

* For the sake of brevity, certain columns in the voucher register are omitted. See pages 301 and 302.

The figures shown in the general ledger accounts on page 596 are the same as those that appear on the financial statements, illustrated on pages 592 and 593. For the purpose of this illustration, the figures in the voucher register represent one month's entries; the figures in the general ledger accounts represent the posting for the month and the balances of the accounts at the end of the year. Particular attention is directed to the procedures followed in accounting for indirect factory expenses. The entries in the voucher register and in the general journal for factory expenses should be carefully traced to the Indirect Factory Expense control and to the subsidiary expense ledger. (Only three indirect factory expense accounts are illustrated.)

Illustration Continued—The Manufacturing Worksheet The worksheet for a manufacturing concern differs from the ones illustrated for trading concerns in Chapters 3 and 8 by the addition of two columns, headed "Manufacturing Summary." The purpose of these added columns is to segregate the costs of direct material, direct labor, indirect factory expense, and the beginning and ending inventories of direct material and work in process. The balance of these columns represents the cost of goods manufactured. The cost of goods manufactured is transferred to the debit column of the income summary section of the worksheet.

The worksheet illustrated on pages 602 and 603 shows the main features of a worksheet designed for a manufacturing enterprise. The statements on pages 592 and 593 were prepared from this worksheet. It should be noted that the specific indirect factory expenses are listed in the trial balance instead of the balance from the Indirect Factory Expense control account. Some accountants may prefer to show only the control account balance, thereby facilitating the drawing off of the trial balance, but necessitating a separate subsidiary expense trial balance in order to prove equality with the control account.

The following adusting entries should be traced to the worksheet on pages 602 and 603, particular attention being given to the allocation of the expenses among the three principal categories of expense, namely, manufacturing, selling, and general. The first adjusting entry below is an example in which prepaid insurance premiums are written off as indirect factory expense, selling, and general expense.

Prepaid insurance premiums amounting to $10,000 are written off as follows:

50% Indirect factory expense
30% Selling expense
20% General expense

The basis of allocation is the assumed value of the property in these three divisions.

(1) Indirect factory expense—Insurance	5,000	
Selling expense—Insurance	3,000	
General expense—Insurance	2,000	
Prepaid insurance		10,000

Explanation: To write off expired insurance premiums.

The factory building costing $200,000 has a service life of 20 years. The yearly rate of depreciation is 10%, using the double-declining balance method.

(2) Indirect factory expense—Depreciation of factory building	20,000	
Allowance for depreciation of factory building		20,000

Explanation: To record depreciation on the factory building for the year.

The factory machinery is depreciated by $25,000. It is assumed that the company keeps its factory equipment itemized in a plant ledger, and that the amount taken for the current year represents depreciation at various rates on various amounts.

(3) Indirect factory expense—Depreciation of factory equipment	25,000	
Allowance for depreciation of factory equipment		25,000

Explanation: To record depreciation on factory equipment for the year.

Accrued wages of $10,000 are owed to the factory direct labor.

(4) Direct labor	10,000	
Accrued wages		10,000

Explanation: To record accrued wages.

Accrued payroll taxes of $1,000 and accrued property taxes of $2,000 are charged to the factory.

(5) Indirect factory expense—Payroll taxes	1,000	
Indirect factory expense—Property taxes	2,000	
Accrued payroll taxes		1,000
Accrued property taxes		2,000

Explanation: To record accrued taxes.

As of December 31, the following physical inventories are determined:

Direct material	55,000
Work in process (refer to page 605)	70,000
Finished goods	35,000

Illustration Continued—Closing Entries A separate Manufacturing Summary account is provided in the general ledger in order to classify and close the manufacturing costs and expenses. The balance of the Manufacturing Summary account is closed into the Income Summary account at the end of the fiscal period, along with the revenue accounts, the finished goods' inventory accounts and the operating expense accounts. In recording the closing entries, the recommended order is to follow the order of the accounts as they appear in the financial statements, beginning with the accounts that comprise the statement of cost of goods manufactured:

1. Manufacturing summary	50,000	
Inventory—Direct material		50,000
Explanation: To close the beginning inventory.		
2. Manufacturing summary	213,000	
Direct material purchases returns and allowances	5,000	
Purchases discounts	2,000	
Freight-in		20,000
Direct material purchases		200,000
Explanation: To close net cost of purchases.		
3. Inventory—Direct material	55,000	
Manufacturing summary		55,000
Explanation: To record the ending inventory.		
4. Manufacturing summary	250,000	
Direct labor		250,000
Explanation: To close the Direct Labor account.		
5. Manufacturing summary	250,000	
Indirect factory expense control		250,000
Explanation: To close the Indirect Factory Expense control account.		
6. Manufacturing summary	75,000	
Inventory—Work in process		75,000
Explanation: To close the beginning inventory.		
7. Inventory—Work in process	70,000	
Manufacturing summary		70,000
Explanation: To record the ending inventory.		
8. Income summary	713,000	
Manufacturing summary		713,000
Explanation: To close the Manufacturing Summary (i.e., the cost of goods manufactured) for the year ended December 31, 19—.		
9. Income summary	40,000	
Inventory—Finished goods		40,000
Explanation: To close the beginning inventory.		
10. Inventory—Finished goods	35,000	
Income summary		35,000
Explanation: To record the ending inventory.		

11.	Sales	900,000	
	Income summary		900,000
	Explanation: To close the Sales account.		
12.	Income summary	100,000	
	Selling expense control		100,000
	Explanation: To close the selling expenses.		
13.	Income summary	64,000	
	General expense control		64,000
	Explanation: To close the general expenses.		
14.	Income summary	5,400	
	Provision for Federal income tax		5,400
	Explanation: To record the liability for Federal income tax on the year's taxable net income.		
15.	Income summary	12,600	
	Retained earnings		12,600
	Explanation: To close the balance of the Income Summary account (i.e., the net income).		
16.	Retained earnings	5,000	
	Dividends declared		5,000
	Explanation: To close the Dividends Declared account.		

After posting the above entries, the Manufacturing Summary account and the Income Summary account show data as follows:

MANUFACTURING SUMMARY ACCOUNT 900

		DR.	CR.			Balance	
Beginning inventory					Ending inventory		
Direct material	(1)	50,000	55,000	(3)	Direct materials		
Net cost of purchases							
Direct material	(2)	213,000				208,000	(A)
Direct labor	(4)	250,000					
Indirect factory							
Expense control	(5)	250,000				708,000	(B)
Beginning inventory					Ending inventory		
Work in process	(6)	75,000	70,000	(7)	work in process	713,000	(C)
					Balance closed to Income		
			713,000	(8)	Summary account		
		838,000	838,000				

Notes:
(A) Direct material used.
(B) Total factory cost.
(C) Cost of goods manufactured.

INCOME SUMMARY ACCOUNT 901

		DR.	CR.			Balance	
Cost of goods manufactured	(8)	713,000	35,000	(10)	Ending inventory Finished goods		
Beginning inventory Finished goods	(9)	40,000				718,000	(D)
			900,000	(11)	Sales	182,000	(E)
Selling expenses	(12)	100,000					
General expenses	(13)	64,000				18,000	(F)
Federal income tax	(14)	5,400				12,600	(G)
Balance closed to retained earnings	(15)	12,600					
		935,000	935,000				

Notes:
(D) Cost of goods sold.
(E) Gross profit on sales.
(F) Net income before Federal income tax.
(G) Net income.

Statement of Cost of Goods Sold Many accountants prefer a separate statement of cost of goods sold, instead of bringing forward the cost of goods manufactured and combining it with the finished goods inventories in the income statement. The details of the cost of goods manufactured illustrated in the statement on page 592 are omitted in the following statement of cost of goods sold:

A MANUFACTURING COMPANY — Exhibit D
Statement of Cost of Goods Sold
For the Year Ended December 31, 19—

Cost of Goods Manufactured (details omitted)	$713,000
Finished goods inventory, January 1, 19—	40,000
Total	$753,000
Finished goods inventory, December 31, 19—	35,000
Cost of Goods Sold	$718,000

A MANUFACTURING COMPANY — Exhibit C
Income Statement
For the Year Ended December 31, 19—

Sales	$900,000
Cost of Goods Sold (Exhibit D)	718,000
Gross Profit	$182,000
Operating Expenses (details omitted)	164,000
Net Income before Federal Income Tax	$ 18,000
Federal Income Tax	5,400
NET INCOME	$ 12,600

A MANUFACTURING COMPANY
Trial Balance Worksheet for the Year Ended December 31, 19—

	Trial Balance December 31, 19—		Adjustments		Manufacturing Summary		Income Summary		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Cash	10,000								10,000	
Accounts receivable (net)	50,000								50,000	
Inventory direct material 1/1	50,000				50,000	55,000			55,000	
Inventory work in process 1/1	75,000				75,000	70,000			70,000	
Inventory finished goods 1/1	40,000						40,000	35,000	35,000	
Prepaid insurance	16,000			(1) 10,000					6,000	
Land	5,000								5,000	
Factory building	200,000								200,000	
Allowance for depr. building		—0—		(2) 20,000						20,000
Factory equipment	265,000								265,000	
Allowance for depr. factory equip.		25,000		(3) 25,000						50,000
Current liabilities (details omitted)		115,000								115,000
Capital stock		400,000								400,000
Retained earnings, 1/1		85,000								85,000
Dividends declared	5,000								5,000	
Sales		900,000						900,000		
Direct material purchases	200,000				200,000					
Purchases returns and allowances		5,000				5,000				
Purchases discounts		2,000				2,000				
Freight-in	20,000				20,000					
Direct labor	240,000		(4) 10,000		250,000					
Indirect labor	75,000				75,000					

Indirect materials	65,000						65,000					
Depreciation—Factory equip.			(3)	25,000			25,000					
Depreciation—Factory building			(2)	20,000			20,000					
Pension plan contribution	13,000						13,000					
Taxes—Payroll	10,000		(5)	1,000			11,000					
Taxes—Property	8,000		(5)	2,000			10,000					
Power	9,000						9,000					
Light and heat	7,000						7,000					
Repairs and maintenance	6,000						6,000					
Insurance—Factory			(1)	5,000			5,000					
Plant protection	4,000						4,000					
Selling expense (details omitted)	97,000		(1)	3,000					100,000			
Administrative expense (details omitted)	62,000		(1)	2,000					64,000			
	1,532,000	1,532,000										
Accrued wages					(4)	10,000						10,000
Accrued taxes					(5)	3,000						3,000
				68,000		68,000	845,000	132,000	204,000	935,000	701,000	683,000
Cost of goods manufactured								713,000	713,000			
							845,000	845,000				
Federal income tax									5,400			5,400
NET INCOME									12,600			12,600
									935,000	935,000	701,000	701,000

Taking a Physical Inventory of Direct Material, Work in Process, and Finished Goods Taking a physical inventory of the direct material poses the problems of counting, costing, and valuing as described in detail in Chapter 17. No further explanation is needed in this chapter.

The problems of counting and determining the cost of the work in process and finished goods inventories, however, present complications not encountered in a trading concern. Furthermore, the counting of the work in process inventory while operations are being continued in the factory may be a very difficult task to do. Some factories plan a yearly vacation period for everyone, during which time all factory operations cease, except the taking of the inventory.

To illustrate the computation of the cost of the work in process inventory (the same procedures apply to the finished goods inventory), it is assumed that the examples given in this chapter represent the operations of a furniture manufacturer who produces wooden furniture under mass-production methods. The factory is divided into four producing departments:

Department 1—In this department, the lumber is sawed into component parts, consisting of legs, tops, arms, sides, and so on.

Department 2—In this department, the component parts are finished, involving such operations as sanding, drilling holes for assembling, and so on.

Department 3—The parts are assembled in this department.

Department 4—The assembled piece of furniture is stained, varnished, or painted, and then polished.

First, a physical count is made in all four departments. In departments 1 and 2, the count is expressed in terms of the number of board feet of lumber represented by the number of component parts counted. In departments 3 and 4, the count is in terms of finished pieces of furniture. Next, the production manager redefines the finished items of furniture into an equivalent number of board feet. The number of hours employed by direct labor on the products in all four departments must be ascertained. If these figures are not available, they must be estimated in order to determine the direct labor cost incurred in the products up to their stage of completion. (For a description of labor time-keeping, refer to Chapter 27.)

Up to this point, a physical count has been made and figures gathered that can be used to determine the direct material and the direct labor cost. The third element of cost, the indirect factory expense, is particularly difficult to apply to work in process and finished goods inventories. An explanation of the details by which this is accomplished is postponed to Chapter 27. It will therefore be assumed for purposes of this illustration that, for every dollar of direct labor incurred on a product, an-

other dollar of indirect factory expense is incurred. Based on the foregoing facts and assumptions, then, the following calculation of the work in process inventory is made:

Department	Count (board feet)	Direct Material Cost *	Direct Labor Hours	Direct Labor Cost †	Indirect Factory Expense ‡	Total Work in Process
1	8,000	$4,000	1,200	$3,000	$3,000	$10,000
2	4,000	2,000	1,600	4,000	4,000	10,000
3	8,000	4,000	3,200	8,000	8,000	20,000
4	12,000	6,000	4,800	12,000	12,000	30,000
		$16,000		$27,000	$27,000	$70,000

Notes:
* Direct material cost is figured at 50 cents a board foot.
† Direct labor cost is figured at $2.50 an hour.
‡ Indirect factory expense is charged at the rate of 100% of the direct labor cost. The manner of computing an estimated rate of indirect factory expense is explained in Chapter 27.

QUESTIONS

1. What is the essential difference between a trading enterprise and a manufacturing enterprise? In what ways does this difference affect the accounting for a manufacturing enterprise?
2. What are some of the basic forms that a manufacturing enterprise assumes?
3. What is the difference between "prime cost" and "conversion cost"? What is factory cost?
4. Are the indirect expenses described in the chapter the same as those described in Chapter 25? Explain.
5. What are the three inventories usually found in a manufacturing enterprise? What basic inventory method is followed in accounting for inventories in this chapter?
6. Describe the features of the chart of accounts and the coding system used in this chapter on pages 588, 590 and 591.
7. What is the difference between the income statement of a trading enterprise and that of a manufacturing enterprise?
8. Classify the following as to type of expense: (a) Wages of a type-setter in a printing plant. (b) Water used to mix with a chemical product. (c) Paint for the factory building. (d) Social security taxes. (e) Overtime premium pay. (f) Wages of a factory foreman.

PROBLEMS

Problem 26-1

Prepare a statement of cost of goods manufactured for the year ended December 3, 1962, from the following:

Direct material inventory, January 1, 1962	$12,000
Work in process inventory, January 1, 1962	7,000
Finished goods inventory, January 1, 1962	2,500
Direct material inventory, December 31, 1962	7,800
Work in process inventory, December 31, 1962	10,000
Finished goods inventory, December 31, 1962	9,200
Purchases—Direct material	40,000
Direct labor	60,000
Indirect labor	7,500
Freight-in	8,000
Heat, light, and power	12,000
Factory supplies used	6,500
Cash discount on purchases	4,000
Depreciation on factory equipment	9,000
Contribution to pension fund	2,000

Problem 26-2

The Webster Manufacturing Co. uses two summary accounts in closing the books for the year—a Manufacturing Summary account, and an Income Summary account. Prepare the closing entries for the year ended June 30, 1962.

Inventories	June 30, 1961	June 30, 1962
Direct material	8,000	12,000
Work in process	30,000	25,000
Finished goods	55,000	60,000
Purchases direct material		35,000
Purchases—Returns and allowances		2,000
Discounts on purchases		3,500
Freight-in		6,000
Direct labor		40,000
Factory expense control		60,000
Selling expense control		40,000
General expense control		20,000
Sales		250,000
Sales returns and allowances		4,000
Miscellaneous income		2,000
Federal income tax (equals 50% of the Net Income)		28,250
Dividends paid		6,000

Problem 26-3

The following accounts (poorly arranged) make up the trial balance of the Euclid Mfg. Co. as of December 31, 19—.

Accounts payable		45,000
Accounts receivable	42,000	
Machinery and equipment	148,000	
Patents	51,000	
Cash	11,000	
Inventory of direct material	15,000	
Sales		800,000
Discounts on purchases		2,400
Work in process inventory	10,000	
Delivery equipment and aircraft	24,000	
Allowance for depreciation on machinery		40,000
Purchases direct material	250,000	
Finished goods inventory	10,000	
Prepaid insurance	10,000	
Sales returns and allowances	4,000	
Sales discounts	4,000	
Factory supplies used	8,750	
Direct labor	150,000	
Advertising	30,250	
Travel and entertainment	15,000	
Contribution to employees' pension—factory employees	25,000	
Payroll taxes	10,500	
Officers' salaries	25,500	
Office supplies	8,000	
Office equipment	40,000	
Allowance for depreciation on equipment		17,000
Allowance for amortization of patents		22,000
Allowance for depreciation of office equipment		6,000
Indirect labor	13,000	
Heat, light, and power	19,000	
Telephone and telegraph	9,600	
Interest expense	750	
Salesmen's salaries and commissions	44,250	
Capital stock		175,000
Rent	18,000	
Retained earnings (deficit)	110,800	
	1,107,400	1,107,400

Required:

Prepare a worksheet (including columns for manufacturing summary). Make provision for the following adjustments and year-end inventories. (The straight-line method of computing depreciation is to be followed.)

(1)	Depreciation on machinery		10%
(2)	Depreciation on delivery equipment and aircraft		20%
(3)	Depreciation on office equipment		20%
(4)	Amortization of patents	1/17	
(5) *	Expired insurance—50% manufacturing; 30% selling, and 20% general.		4,500
(6)	Allocate rent expense and payroll taxes; 50% manufacturing, 30% to selling; and 20% to general. Follow the same procedure as insurance expense described below.		
(7)	Ending inventories:		
	Direct material		$12,000
	Work in process		15,000
	Finished goods		16,000

* Debit a *single* Insurance Expense account by adjusting entry in the adjustments column. Extend the allocation of the insurance expense into the manufacturing summary columns and the income summary columns. In the latter columns, identify the amounts extended by the letters: (S) selling expense, and (G) general expense.

Problem 26-4

The following is the adjusted trial balance as of December 31, 19–, the end of the fiscal year of the Widget Corporation.

Cash	26,000	
Accounts receivable	7,500	
Direct material inventory—January 1, 19—	6,000	
Work in process—January 1, 19—	3,500	
Finished goods—January 1, 19—	7,000	
Prepaid insurance	2,000	
Machinery and equipment	20,000	
Allowance for depreciation		2,000
Accounts payable		10,000
Capital stock		50,000
Retained earnings, January 1		5,800
Sales		160,000
Purchases—Direct material	20,000	
Freight-in	3,500	
Direct labor	23,000	
Indirect labor	12,800	
Factory rent	13,000	
Heat, light, and power	12,500	
Insurance	7,500 *	
Taxes	9,000 *	
Depreciation—Machinery	2,000	
Miscellaneous manufacturing expense	3,500	
Selling expense control	14,000	
General expense control	35,000	
	227,800	227,800
Inventories Dec. 31, 19—		
Direct material	$8,000	
Work in process	4,500	
Finished goods	6,000	

* Allocate insurance and taxes 50% to manufacturing and 50% to general expense. Make allocation by extending the trial balance figure into the manufacturing and income summary columns.

Required:

(A) Worksheet.

(B) Statement of cost of goods sold.

Problem 26-5

From the following adjusted trial balance of the ABC Company as of its fiscal year ended December 31, 19–, prepare a worksheet with columns for: (a) adjusted trial balance, (b) allocation entries, (c) manufacturing account summary, (d) income summary, and (e) balance sheet.

Cash	5,000	
Accounts receivable	25,000	
Inventories, January 1:		
Direct material	2,000	
Work in process	3,000	
Finished goods	5,000	
Unexpired insurance	500	
Machinery and equipment	20,000	
Allowance for depreciation		2,000
Accounts payable		3,000
Capital stock		50,000
Retained earnings, January 1		2,600
Sales		50,000
Purchases—Direct material	10,000	
Freight-in	500	
Direct labor	15,000	
Indirect labor	3,000	
Factory rent	2,000	
Heat, light, and power	2,500	
Insurance	800	
Taxes	800	
Depreciation—Machinery	2,000	
Selling expenses	5,500	
General expenses	5,000	
	107,600	107,600

Ending inventories and other information:

Inventories, December 31, 19—:	
Direct material	1,000
Work in process	700
Finished goods	2,000
Distribute insurance and taxes 50% to manufacturing, 25% to selling, and 25% to general expenses.	

SUPPLEMENTARY PROBLEMS

Problem 26-6

The following adjusted trial balance was taken from the general ledger of the Sharp Die Co. as of December 31, 19—, the close of the company's fiscal year:

SHARP DIE CO.
Trial Balance
December 31, 19—

Cash	25,800	
Accounts receivable	17,500	
Inventories, January 1:		
Direct material	500	
Work in process	350	
Finished goods	700	
Unexpired insurance	200	
Machinery	18,000	
Allowance for depreciation		1,800
Office equipment	2,000	
Allowance for depreciation		200
Accounts payable		1,200
J. Sharp, Capital		49,600
Sales		55,000
Purchases, direct material	9,000	
Freight-in	300	
Direct labor	12,500	
Indirect labor	2,800	
Factory rent	3,000	
Heat, light, and power	2,500	
Insurance	750	
Taxes	900	
Depreciation of machinery	1,800	
Depreciation of office equipment	200	
Miscellaneous factory expense	1,500	
Selling expense	3,500	
General expense	4,000	
	107,800	107,800

Additional information:

(1) Inventories, December 31, 19—

Direct material	900
Work in process	600
Finished goods	1,200

(2) One-third of the rent is chargeable to general expense for office expense.
(3) 10% of the heat, light, and power is used for the office.
(4) 5% of the insurance is on office equipment.

Note: Record the above allocations as adjustments in the adjustments columns of the worksheet.

Required:

(A) Prepare a manufacturing worksheet covering the year's operations.
(B) Prepare a statement of cost of goods manufactured.

(Forms 18, 8)

Problem 26-7

The trial balance of the Jet Doughnut Co. for the fiscal year ended September 30, 19— appears below.

Cash	20,662	
Accounts receivable	20,500	
Allowance for doubtful accounts		850
Inventory, October 1, 19—	29,500	
Prepaid insurance	750	
Prepaid taxes	2,000	
Workmen's compensation insurance deposit	1,500	
Machinery and equipment	45,000	
Allowance for depreciation—Machinery		4,000
Store equipment	25,000	
Allowance for depreciation—Store equipment		3,500
Delivery equipment	15,500	
Allowance for depreciation—Delivery equipment		800
Accounts payable		39,000
Notes payable		15,000
FICA tax withheld		400
Income tax withheld		1,600
Capital stock		20,000
Retained earnings		15,000
Sales		269,012
Sales returns and allowances	3,600	
Purchases—Direct material	120,000	
Purchases—Returns and allowances		900
Freight-in	1,800	
Purchases discount		2,500
Shop labor	20,000	
Store rent	8,400	
Light, heat, and power	960	
Water	240	
Telephone and telegraph	600	
Wrapping and packing supplies	5,400	
Store clerk wages	14,400	
Payroll taxes	1,700	
Repairs and maintenance	8,500	
Advertising	10,400	
Officers' salaries	12,000	
Professional fees	2,500	
Interest expense	850	
Office supplies	800	
	372,562	372,562

Additional information:

(1) The inventory consists entirely of direct material. The inventory of September 30, 19— is $30,000.

(2) 5% of the accounts receivable are considered to be of doubtful collectibility.

(3) The following rates of depreciation are in effect (straight-line):

Machinery and equipment	10%
Store equipment	10%
Delivery equipment	20%

(4) No provision has been made for accrued State unemployment insurance for the third quarter, amounting to $200.

(5) Three-fourths of the space occupied is used in the production of doughnuts, and one quarter for retail sales.

(6) 10% of the light, heat, and power, and repairs and maintenance are classified as a selling expense.

(7) 60% of the payroll taxes are for shop labor.

Required:

(A) Prepare a manufacturing worksheet. Do *not* treat the adjustments for allocation of expenses as adjusting entries. Allow 50% Federal income tax.

(B) Prepare the following financial statements:
  (1) Statement of cost of goods manufactured.
  (2) Income statement.
  (3) Balance sheet.

(Forms 30, 14)

Problem 26-8

Required:

Prepare closing entries for the Jet Doughnut Co. Problem 26-7.

(Form 3)

27

Cost Accounting

Nature of Cost Accounting

Cost accounting is that facet of the art and science of accounting that analyzes, records, and interprets the cost of a product or a service in terms of unit costs as well as in terms of total costs. The principal emphasis, however, is upon the determination of unit costs.

Cost accounting is distinguished from general accounting in the following ways:

1. General accounting may be termed financial accounting. Its main purposes are to reflect the financial condition of a business and the results of its operations through periodic statements. These financial statements are of interest to management, outside creditors, bankers, investors, and governmental agencies. General accounting provides general financial information to management and to all *outside* parties. Cost accounting, however, is only for internal management use. Cost accounting deals principally with *details* of the operations of an enterprise. For example, while general accounting will reveal the total costs of materials, or of labor, cost accounting will show how much material or labor is used in producing each job, or lot, or unit of product. Cost accounting will provide the basis for cost analysis and control not possible with general accounting alone. Cost accounting is generally, but not necessarily, restricted to manufacturing operations. In other words, it may be said that cost accounting provides a detailed breakdown of general accounting totals for the information and guidance of internal management.

2. Cost accounting, in order to reduce the total costs of general accounting to per-unit costs, requires greater detail in: (a) processing the day-by-day transactions, (b) recording these transactions in journals and ledgers, (c) employing a greater variety of journals and ledgers,

and (d) reporting the results to management. As explained above and in Chapter 26, general accounting requires less-detailed record keeping.

3. Cost accounting makes greater use of the *control account* principle than one usually finds in general accounting systems. A more extensive use of control accounts permits: (a) greater *division of labor* in the accounting department, so necessary to handle effectively the greater number of reports, and (b) a more detailed classification of accounting transactions.

Objectives of Cost Accounting

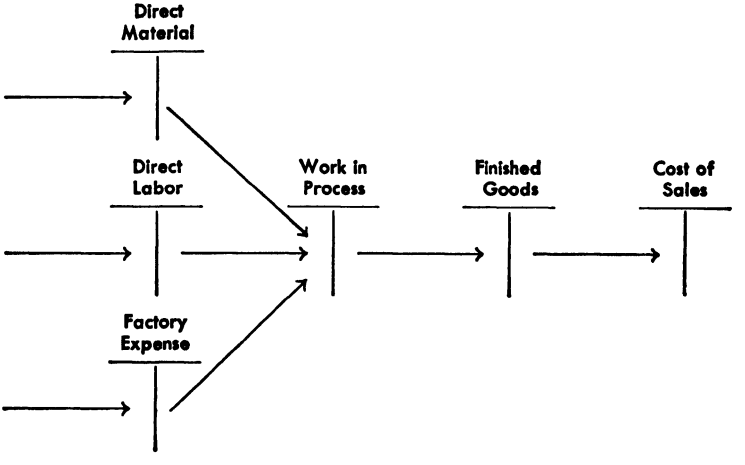
From the above description of the nature of cost accounting, it can be seen that cost accounting is a very important but specialized branch of accounting. For a better understanding of its relationships to the body of accounting knowledge, the following objectives of cost accounting are outlined:

1. Gives management a more detailed knowledge of the cost of the operations of an enterprise.
2. Makes possible a more precise determination of the net income.
3. Assists management in providing the information needed in making decisions that require a more comprehensive classification of costs.
4. Assists management in establishing profitable selling prices for its products as well as its services.
5. Gives management clues to cost reduction.
6. Makes it possible for the accounting department to prepare financial statements more frequently.
7. By "tying-in" perpetual inventory records with their related general ledger control accounts, the balancing of inventories is more systematic.
8. The valuation of inventories is more carefully controlled.

The Cost-Flow Principle

As direct material passes from the storeroom into the factory for conversion into finished products and back into the storeroom for storage until sold, costs are being gathered in totals and per unit for each stage of the productive process. Each movement in the factory operation is accounted for at the time it occurs. This is the cost-flow principle. Assisting in the carrying out of this principle is the perpetual inventory method of accounting for inventories. In the operation of this method of handling inventory, a record is made of the issue of direct and indirect materials from the storeroom, as well as a record of their receipt

when they are purchased. The continuous accounting for the flow of materials at the time of occurrence is essential to an accounting for costs. The following diagram illustrates the flow of the three sources of cost through the factory (work in process), into the storeroom (finished goods), and into the hands of the customers (cost of sales), as they appear in these general ledger control accounts:



Cost Accounting Systems

The flow of the product through the plant and the corresponding flow of costs through the accounts basically follows one of two different systems. One system is called the *job order system;* the other system is the *process cost system.* The essential features of both systems are described in the following sections of this chapter.

Job Order Cost Accounting

Basic Features of Job Order System of Cost Accounting Job order cost accounting is characterized by the identification of specified amounts of direct material, direct labor, and factory expense with the production of a distinct job or lot of a certain product. Frequently, the job or work is done according to a customer's specifications, e.g., a job to print 5,000 sheets of letterhead stationery, or a job to make a piece of custom furniture, or a job to repair an automobile.

The emphasis in job order cost accounting is upon the cost of the job rather than upon the cost of the productive operations necessary to perform the job. What distinguishes one job from another may lie in the distinctiveness of the product, e.g., 5,000 sheets of letterhead sta-

tionery printed with customer A's name and address may be different from 5,000 sheets printed for customer B, in the color, texture, and size of the paper, and the style of the printing. Or, the difference between one job and another may be in the amount or class of labor, or in the sequence of the operations. It is mainly because of these differences that the costs of one job are kept separate from the costs of another job. However, this does not necessarily limit job order cost accounting procedures to types of enterprise that manufacture only to a customer's specifications, as the example cited seemed to imply. Some companies that make and assemble parts into a finished product, as for example, an electric motor, may use the job order system to account for the production of each of the parts. Such a company may find it convenient to issue orders to the factory, for example, to wind armatures with copper wire in job lots of 1,000. Whenever the storeroom runs low on a motor of a certain size, orders are issued to the factory to produce the component parts as well as the order to assemble the parts. Each of the orders issued for a part, such as armatures, is the same as the previous order. In some cases, more than one job for the same part may be in process at the same time. Under these conditions, job order cost accounting is practiced because the management finds it convenient to arrange its production schedule by job lot or job order.

The job order cost system is set into motion, as pointed out above, either upon receipt of a customer's purchase order or upon the issuance of a requisition by the storekeeper for additional finished stock to replenish his inventory. A numbered *cost sheet*, or *production order*, is issued to the factory to schedule the job for production. A sample cost sheet is illustrated on page 618. Space is provided on this form for the name of the customer or the name and number of the stock item, if the order is for stock rather than for a specific customer. Other items of information noted on the cost sheet are: a description of the product, the date the order was received, the date the order is to be completed, columns for daily cost entries of direct material, direct labor, and factory expense, and a section in which the costs are summarized when the job is completed. In many cases, the kind of direct material to be used in making the product is itemized, as, for example, the color and the weave of the fabric for a custom-made davenport. As the day-to-day costs are incurred, they are posted to the cost sheet. The cost sheets are held in a binder or a file until completed. Together they constitute a subsidiary ledger of the work in process inventory. When a job is completed, the costs are totaled and divided by the number of units of the product or part to arrive at a per-unit cost. The completed job cost sheet is then posted to a finished stock perpetual inventory record card and entered in a register of completed jobs (see page 632). It is finally filed in a completed job file.

The principal features in the accounting for a job order system are illustrated in the diagram on page 621. The purpose of this diagram is to trace the flow of costs through the accounts, and particularly to show the relationships between the entries in the general ledger and the entries in the subsidiary cost records. It is important to see the broad outlines of the entire structure of a job order system before attempting to study the details of the system. The following diagram is divided into two parts: the upper part shows the three inventory control accounts through which the *totals* of the direct materials, direct labor, and factory expenses pass from their sources through the work in process into finished goods and cost of goods sold. The lower half shows the *details* of the movement of the direct materials, direct labor, and factory expenses into the various subsidiary ledgers. The subsidiary records in the lower half of the diagram are controlled by the accounts in the upper half of the diagram. It is important to visualize this controlled relationship first.

Following this diagram, there is a detailed description of the procedures required in cost accounting to account for direct materials, direct labor, and factory expense. These procedures generally apply to the process cost system as well as the job order system.

Accounting for Direct Materials In the previous Chapter 26, direct materials were defined as those materials that are physically identified with a finished product, such as clay used in the ceramics industry. All other materials used in a factory are classified as indirect materials under the principal cost category of factory expenses, such as oil to lubricate a machine, glue used to assemble furniture (while glue is actually a form of direct material, it is more common for a pot of glue to be treated as part of the cost of operating the furniture assembly department), and factory supplies used in repairs and maintenance. The accounting procedures followed in handling indirect materials are covered in a later section of this chapter devoted to "Factory Expense Allocation."

The general procedures employed in purchasing, receiving, and storing direct material are the same as those described for a trading concern in Chapters 12 and 17. In Chapter 17, the perpetual inventory system is described in detail. The same procedures are applicable to the accounting for direct materials. As soon as direct materials have been received and inspected, they are placed in boxes, bins, racks, or on pallets suitably marked so that they can be readily identified. An entry is made in the "In" column of the appropriate perpetual inventory card, and the quantity, price, and amount of the purchase is brought forward to the balance column. The figures in the balance column may be carried on a first-in-first-out basis, a last-in-first-out basis, or according

COST SHEET

Customer or Stock Item _____ Order No. _____

Address _____ Date Received _____

Description of Product _____ Date Promised _____

_____ Quantity Completed _____ Date Shipped _____

_____ Date Completed _____ Sales Price $ _____

FACTORY COSTS

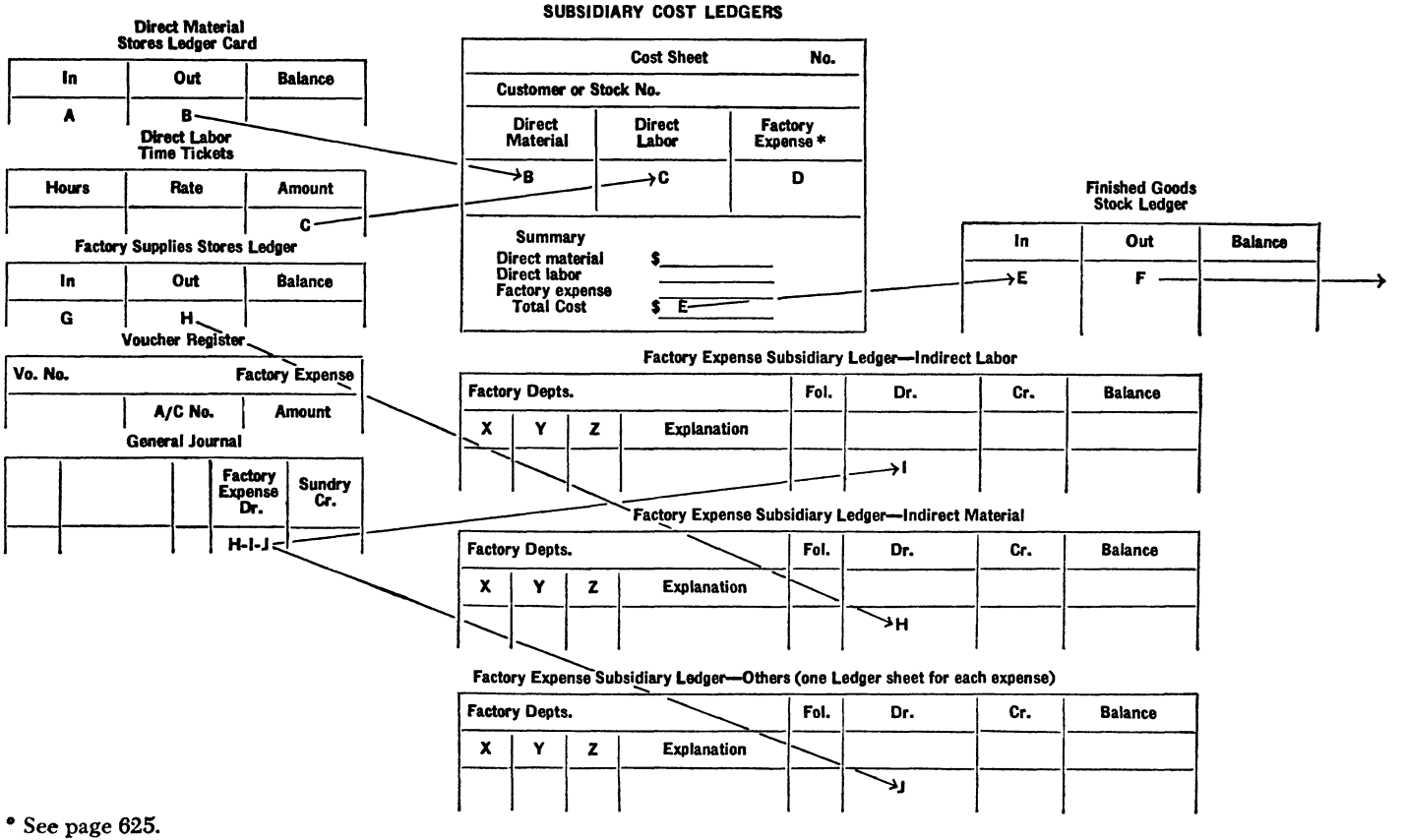
Direct Material			Department:				Department:			
Date	Purchase Order No.; Requisition No.	Amount	Date	Direct Labor		Factory Expense	Date	Direct Labor		Factory Expense
				Hours	Amount			Hours	Amount	

FACTORY COSTS (reverse side)

SUMMARY

Direct material $
Department:
Direct labor
Factory expense
Department:
Direct labor
Factory expense
Total Factory Cost $
Unit Cost $

JOB ORDER COST ACCOUNTING FLOW CHART
General Ledger Accounts
Direct Material Control
Purchases A
Total materials requisitioned B
Accrued Payroll
Payroll paid
Direct labor C
Indirect labor I
Factory Expense Control
Expenses incurred H-I-J etc.
Total estimated * expense allocated D
Factory Supplies Inventory
Purchases G
Requisitioned to factory departments H
Work in Process Control
B
C
D
Total cost of material, labor, and expense of completed jobs E
E
Finished Goods Control
Total cost of jobs sold F
F
Cost of Goods Sold
Closed to Income Summary account


SUBSIDIARY COST LEDGERS
Direct Material Stores Ledger Card
In
Out
Balance
A
B
Direct Labor Time Tickets
Hours
Rate
Amount
C
Factory Supplies Stores Ledger
In
Out
Balance
G
H
Voucher Register
Vo. No.
Factory Expense
A/C No.
Amount
General Journal
Factory Expense Dr.
Sundry Cr.
H-I-J
Cost Sheet
No.
Customer or Stock No.
Direct Material
Direct Labor
Factory Expense *
B
C
D
Summary
Direct material $
Direct labor
Factory expense
Total Cost $ E
Finished Goods Stock Ledger
In
Out
Balance
E
F
Factory Expense Subsidiary Ledger—Indirect Labor
Factory Depts.
X
Y
Z
Explanation
Fol.
Dr.
Cr.
Balance
I
Factory Expense Subsidiary Ledger—Indirect Material
H
Factory Expense Subsidiary Ledger—Others (one Ledger sheet for each expense)
J

* See page 625.

to some average basis. These methods of pricing inventories are described in Chapter 17.

When direct materials are issued to the factory, the authorization to remove them from the storeroom is in the form of a signed order, called a "Stores Requisition." In the form illustrated below, space is provided for a description of the materials, the job number, the operation and department requesting the materials, and the quantity and cost of each material item.

Stores Requisition

Department_____ Date_____

Job No._____

Description	Qty.	Unit Cost	Amount

Taken by_____

Approved_____

An entry is made in the "Out" column on the perpetual inventory cards from the above requisition. At the same time a corresponding entry is made on the cost sheets in the direct material section for each job. The entries on the perpetual inventory cards and the cost sheets are made each time direct materials are removed from stock to be used on a job. This may require daily posting to these *cost records*, which have been referred to previously as *subsidiary cost ledgers*. At the end of the month, in order to give effect to the daily charges to the cost sheets for direct material used, the requisitions are totaled and the following entry is made in the general journal:

Work in process	xxxx	
Direct material inventory		xxxx

Explanation: To record direct material issued from the storeroom during the month of _____.

If more materials are issued to the factory for jobs than were needed, the excess materials are returned to stores, and the following entry is made in the general journal:

Direct material inventory	xxxx	
Work in process		xxxx

Explanation: To record direct material returned to the storeroom.

Entries for the direct materials returned are also made in the direct material section of the cost sheets in red, or in parentheses, and in the "Out" column of the perpetual inventory record cards in red or in parentheses.

If direct materials are ordered specifically for a job, the purchase order is noted first on the cost sheet. When the materials are received, they may not be placed in the storeroom, or recorded on perpetual inventory cards, but may be taken directly to the factory. Under these circumstances, the entry for the purchase in the voucher register is:

Work in process	xxxx	
Vouchers payable		xxxx

Explanation: To record the purchase of direct materials to be charged to Cost Sheet No._____.

A corresponding entry is made in the direct material section of the cost sheet.

Accounting for Direct Labor Direct labor is that class of labor that is performed directly on the product, such as a clay moulder in a ceramics plant. Indirect labor is a class of factory expense that performs services within the factory but not on the product being manufactured, such as the foreman in the moulding department of a ceramics plant, or the clerk in charge of the direct material inventory records. The accounting procedures related to indirect labor, indirect materials, and other forms of factory expense are described in the following section of this chapter.

In most instances, a direct laborer is required to keep a record of his *daily attendance* on a *Clock Card,* such as the one illustrated on the following page. In addition, when he is assigned to a job, he records the time he started the job, finished it, and the quantity of production that he completed. The record of *work done* is called a *Time Ticket.* A sample time ticket is also illustrated on the following page, and is designed to show the work done on a single job. Another style of time ticket not illustrated is designed to show on one ticket all of the jobs worked upon by a direct laborer in the course of a day.

Each day, the elapsed time on each worker's clock card is compared with the time expended on jobs or in the performance of any other authorized work, such as repairing a machine. Quite often, direct laborers may make minor repairs to their machinery. A major repair would be made by a mechanic hired from the outside or by one of the factory employees whose sole job is doing repairs and maintenance work in the factory. Whether the repair is performed by the direct laborer or by someone else, the time and the cost of the repair is a factory expense and is not chargeable directly to a cost sheet but is chargeable to the department in which the repair was made. A separate time ticket,

CLOCK CARD

No. 100

Name James Madison

Week Ending May 26 1961

Day	AM In	Noon Out	Noon In	PM Out	PM In	PM Out	Hrs.
Mon.	8	12	12:30	4:30			8
Tues.	8	12	12:30	4:30	5	8	11
Wed.	8	12	12:30	4:30			8
Th.	8	12	12:30	4:30	5	8	11
Fri.	8	12	12:30	4:30			8
Sat.							
Sun.							

Number Dependencies 3

Rate 2.00

Total Hours 46

O.T. Hours 6

Check No. 1234

Reg. Earnings 92.00
O.T. Premium 6.00
Gross Earn 98.00
FICA . 2.94
W.T. 10.90
Union Dues 1.00
Tot. Ded. 14.84
Net Pay 83.16

Hours

should agree

TIME TICKET

Job Time Ticket

Name James Madison

Clock No. 100 Dept. Clay Mixing

Date 5/22/61

Job No.	Work Performed	Hrs.	Rate	Amount
456	Blending	6	2.00	12.00

Indirect Labor Time Ticket

Name James Madison

Clock No. 100 Dept. Clay Mixing

Date 5/22/61

Exp. No.	Work Performed	Hrs.	Rate	Amount
	Repair Machine	2	2.00	4.00

often distinctively colored so as not to be confused with a direct labor time ticket, is made out for repair work, just as for work performed on a job. In any case, the time tickets turned in each day by all classes of workers should agree with the elapsed time on the clock cards. After being reconciled with the clock cards, the time tickets for direct labor are posted to the direct labor section of the cost sheets.

At the end of the month, the time tickets turned in by the direct laborers are totaled, and the following entry is made:

Work in process	xxxx	
Factory expense control	xxxx	
Accrued payroll		xxxx

Explanation: To charge the Work in Process inventory account with the cost of direct labor performed on jobs, and to charge the Factory Expense control account with the time of direct labor expended on other activities, such as repairs, idle time, accidents, permissible union activities, and so on.

Each week, the clock cards are sent to the payroll department where the time on the card for each worker is totaled, multiplied by the worker's rate of pay, adjusted for payroll taxes and other deductions, and the net pay determined. The details of the payroll may be entered in a payroll journal as illustrated in Chapter 20. The following entry is made for the payment of the payroll:

Accrued payroll	xxxx	
FICA tax withheld		xxxx
Income tax withheld		xxxx
Union dues		xxxx
Vouchers payable or payroll bank account		xxxx

Explanation: To record the payment of the payroll, less deductions, for the week ending_____.

Accounting for Factory Expenses Factory expenses comprise the third major category of factory cost, direct material and direct labor being the other two. Factory expenses include all those expenses that occur within the factory that apply to the factory operations but are not a direct part of the product being manufactured. With regard to the product, then, factory expenses are an indirect cost. Factory expenses, however, *may be* referred to as direct expenses when considered in connection with the operations of a factory department in which a product is being made. (This distinction is developed in detail in the following sections of this chapter.) Before describing the accounting for factory expenses, another distinction is made that has a bearing upon the accounting procedures that will be followed. That is, *the cost sheets for the jobs in process are not charged with the actual incurred factory expenses but with an estimated amount of expense.* There are two reasons why the cost sheets are charged with an estimated amount of factory expense, using a predetermined rate, computed in the manner

described on page 630. First, management usually wants to know the total and the unit cost of a job when it is finished. As jobs will be started and finished at various times during the month, and as the actual factory expenses cannot be recorded in detail until the end of the month, it is necessary to estimate the factory expenses of jobs beforehand and allocate them to the jobs as the work progresses.

A second reason for estimating factory expenses in advance, and reducing them to a predetermined rate, is that a predetermined rate covering an ensuing twelve month's period may be a more nearly accurate representation of the cost of one month's expenses than a rate calculated at the end of any one month from the actual expenses of that month. For example, the experience of prior years may provide management with sufficiently accurate information with which to forecast the amount of repairs and maintenance expense for a coming year, but without the knowledge as to when the repairs will be made. By estimating the expense of repairs and maintenance for the coming year and spreading the cost over the year, the cost sheets will reflect a *normal expense* instead of the coincidental incurrence of this expense.

The accounting for factory expenses, therefore, is described under two headings: (a) accounting for *incurred* factory expenses, and (b) accounting for *estimated* factory expenses.

Incurred Factory Expenses The following are the principal classes of factory expenses previously described in Chapter 26: (1) indirect labor and supervision, (2) indirect materials and supplies, (3) outside service charges, and (4) fixed charges.

There are usually several expense accounts for each one of these classes of expense. In other words, fixed charges as a class of factory expenses is broken down into accounts for depreciation, insurance, taxes, rentals, and others. Each of these accounts may appear either in the general ledger or in a subsidiary expense ledger controlled by a Factory Expense control account in the general ledger. (See pages 620, 621.)

The voucher register and the general journal are the usual sources from which the factory expenses are posted. Assuming the use of a Factory Expense control account, when a factory expense is journalized it is entered as a debit to a specific expense account, such as Indirect Labor, Account Number 421, in a special Factory Expense control column provided for in the voucher register, or general journal, or any book of original entry in which factory expenses may be entered. At the end of the month, the Factory Expense control columns in the various journals are totaled and posted to the Control account. The specific expenses are posted to a subsidiary expense ledger. The procedures briefly described here are the same as the procedures described in Chapters 25 and 26. The journals and ledgers illustrated in those chapters should be reviewed in connection with the study of this chapter.

At the end of the month, the factory expenses are allocated to the various factory departments. The object, as explained in regard to the departments of a trading concern, is to find out how much it costs to operate a department in the factory as an aid in controlling the costs of operations and promoting the efficiency of the factory. In most factories, there are two different types of departments: (a) producing departments and (b) service departments. A department may consist of a group of workers performing similar tasks, or a group of machines performing similar functions. A department may also be defined as an area of responsibility within the factory, which implies that in this area there is a delegation of authority to someone. The producing departments are the manufacturing departments, the ones that make the products. The service departments assist the producing departments, but do not directly enter into the production of a product. The following are some examples of producing and service departments found in a ceramics plant. These departments will be referred to in the illustrations that follow. Therefore, their primary functions should be clearly understood.

Examples of Producing Departments in a Ceramics Factory.

1. Clay mixing—in which different kinds of clay are mixed and blended into a quality and consistency needed to produce various products, such as cups, saucers, plates, and decorative pieces.
2. Clay forming—the clay is extruded and formed into shapes of dinnerware, for example.
3. Burning—the formed pieces are placed in kilns to be dried and hardened.
4. Glazing—the formed and hardened pieces are given a thin coating resembling glass and placed again in the kilns for drying.

Examples of Service Departments in a Ceramics Factory.

1. Boiler room—the pottery plant produces its own steam and heat.
2. Laboratory—in this department tests are made of the product at various stages of production for quality, size, finish, and other attributes of a good product.
3. Machine repairing—a crew of skilled mechanics maintains and repairs the extensive machinery needed in the plant.
4. Infirmary—a first-aid station. Sometimes a full-time nurse and doctor are employed in plants where there are a large number of employees.

For each producing and service department, there is a control account in the general ledger. At the end of the month, the balance in the Factory Expense control account is transferred to the Departmental Factory Expense control accounts. A worksheet prepared from the subsidiary factory expense ledger forms the basis for the departmental expense allocation entries. A worksheet showing the distribution of

A POTTERY PLANT

Factory Expense
Distribution Worksheet
Month of_____

Account No.	Expense	Subsidiary Ledger Total	Producing Depts.		Service Depts.		Basis of Allocation
			Clay Mixing	Mould-ing	Lab-oratory	In-firmary	
420.1	Indirect labor	$2,800	$700	$700	$800	$600	Direct from payroll.
420.2	Indirect materials	1,400	200	400	700	100	Direct from requisitions.
420.3	Payroll taxes	700	225	250	200	25	Direct from payroll.
420.4	Depreciation—Bldg.	900	200	400	200	100	Square footage
420.5	Repairs—Maintenance	700	500	125	50	25	Direct from time tickets.
420.6	Depreciation—Equip.	1,000	300	600	75	25	Direct value department equipment.
420.7	Utilities	800	300	350	125	25	Apportioned on the basis of usage estimated from kilowatt hours in each department and other evidence.
	Totals	$8,300	$2,425	$2,825	$2,150	$900	
	Allocation of infirmary expense *		(4/9) 400	(4/9) 400	(1/9) 100	(900)	
					$2,250		
	Allocation of laboratory expense †		(1/2) 1,125	(1/2) 1,125	(2,250)		
	Totals ‡	$8,300	$3,950	$4,350			

* Allocation on the basis of the number of employees:

Clay mixing	40	
Moulding	40	
Laboratory	10	
	—	90
Infirmary		10
Total		100

† Allocation 1/2 to each producing department based on past experience of services used.
‡ The foregoing schedule is limited to a few representative expenses for the sake of brevity in the illustration.

some of the factory expenses to two of the producing and two of the service departments is illustrated on page 628, followed by the adjusting or allocation entries transferring the balance in the Factory Expense control account to the departments illustrated.

The end of the month allocation entries prepared from the foregoing worksheet are as follows:

Factory expense control—Clay mixing department	2,425	
Factory expense control—Moulding department	2,825	
Factory expense control—Laboratory department	2,150	
Factory expense control—Infirmary department	900	
Factory expense control		8,300

Explanation: To close the Factory Expense control account and allocate the balance to departmental control accounts based on information in the subsidiary expense ledger, for the month of_____.

Factory expense control—Clay mixing department	400	
Factory expense control—Moulding department	400	
Factory expense control—Laboratory department	100	
Factory expense control—Infirmary department		900

Explanation: To allocate the factory expenses incurred in operating the infirmary to the producing departments and to the laboratory department on the basis of the number of employees in each department, for the month of_____.

Factory expense control—Clay mixing department	1,125	
Factory expense control—Moulding department	1,125	
Factory expense control—Laboratory department		2,250

Explanation: To allocate the factory expenses incurred and allocated to the laboratory department to the producing departments equally, based on prior experience, for the month of_____.

Estimating Factory Expenses A worksheet, similar to the one on page 628, is prepared at the beginning of the year on which the factory expenses are estimated for each department. The primary purpose of the worksheet is to provide a basis for the calculation of a rate to be used in charging the cost sheets with a share of the factory expenses of the producing departments through which the jobs pass. A worksheet estimating the factory expenses in four departments of a ceramics plant is illustrated on page 630. These four departments are the same as those previously illustrated.

The first step in preparing the worksheet below is to estimate the factory expenses for the year according to the account classifications in the subsidiary expense ledger. Previous years' balances in these accounts will supply much of the information needed for the estimates. Adjustments may be made for anticipated changes in the volume of business, purchases of additional equipment, changes in payroll tax rates, or any other factors that may cause the coming year's expenses to vary from those of preceding years.

A POTTERY PLANT

Schedule of Estimated Factory Expenses
For the Year Ended December 31, 19—

Account No.	Expense	Total	Producing Departments		Service Departments	
			Clay Mixing	Moulding	Laboratory	Infirmary
420.1	Indirect labor	$ 34,000	$ 8,500	$ 8,500	$ 9,500	$ 7,500
420.2	Indirect material	17,000	2,500	5,000	8,500	1,000
420.3	Payroll taxes	8,500	2,500	2,500	2,000	1,500
420.4	Depreciation—Building	10,800	2,400	4,800	2,400	1,200
420.5	Repairs and maintenance	9,000	5,000	2,000	1,000	1,000
420.6	Depreciation—Equipment	12,000	3,600	7,200	900	300
420.7	Utilities	10,000	3,700	4,300	1,450	550
	Totals	$101,300	$28,200	$34,300	$25,750	$13,050
	Infirmary expense prorated *		(2/9) 5,800	(2/9) 5,800	(2/9) 1,450	(13,050)
					$27,200	
	Laboratory expense prorated †		(1/2) 13,600	(1/2) 13,600	(27,200)	
	Totals	$101,300	$47,600	$53,700		

Estimated yearly machine hours 40,000
Predetermined rate per hour $1.19
Estimated direct labor cost $35,800
Predetermined per cent of labor cost 150%

* Prorated on the basis of the number of employees:

Clay mixing	40
Moulding	40
Laboratory	10
	90

† Prorated 50–50 on the basis of past experience in the use of laboratory service.

After listing the estimated expenses for each account, the next step is to allocate or prorate them to the producing and service departments. It has already been explained in this chapter and preceding chapters that some expenses can be allocated directly, as for example, indirect labor, because the expense can be identified with a department directly through the payroll records. Other expenses, as, for example, the depreciation of the building, must be prorated on a proportionate basis, such as square feet of space occupied.

The third step in the completion of the worksheet is the proration of the service department expenses to the producing departments. When the services of two or more service departments are interrelated, a

complicated problem of proration arises. A practical rule is to prorate first the expenses of the department that renders services to the greatest number of other departments and receives the least service from them. The service department that services the next greatest number of the other departments is prorated next, and so on, until all the factory expenses have been prorated to the producing departments.

In the final step, the total estimated factory expense required to operate a producing department is divided by a figure, also estimated, that best represents the relationship between the expenses and the jobs worked upon. For example, the clay mixing operation is almost entirely mechanical, so that the number of machine hours is a reasonable basis upon which to allocate the costs of the clay mixing department to the jobs in that department. The quotient is the *predetermined rate* (often called a *burden rate*) by which factory expenses are allocated to work in process (cost sheets). The procedure by which this is accomplished is explained in the next paragraph.

At the end of the month, the cost sheets for each completed job and each incomplete job are charged with a prorated portion of factory expense for each department in which the jobs were worked upon. The charge is computed by multiplying each job's basis upon which expenses are prorated by the predetermined rate of expense. For example, in the case of the clay mixing department, a predetermined rate of $1.19 per machine hour has been established for the coming year. For every machine hour used by jobs in the clay mixing department, $1.19 is charged for factory expense. If a job used 10 hours during the month, it would be charged with $11.90. In the case of jobs worked upon in the moulding department, the amount of direct labor cost expended on each job during the month in that department is multiplied by 150% to arrive at the amount of factory expense estimated for these jobs.

The charges to the cost sheets for estimated factory expense for the month are totaled and the following general journal entry made:

Work in process	xxxx	
Factory expense—Clay mixing department		xxxx
Factory expense—Moulding department		xxxx

Explanation: To record total estimated factory expenses charged to the cost sheets during the month of_____.

The credits in the above entry may be made to the same accounts as the incurred factory expenses, as in the above entry, or to separate accounts, such as Factory Expense Applied—Clay Mixing Department. Usually, the incurred expenses (debits) will differ in amount from the credits (estimated applied expenses). A question arises as to the disposition of the differences. The net difference is termed an "Over-absorbed Expense," or an "Under-absorbed Expense." Accountants

usually carry forward the differences from month to month until the end of the fiscal year, at which time the Under or Over-absorbed expenses are usually closed into the Cost of Goods Sold. Significant differences may be allocated to the inventories and the Cost of Goods Sold.

Accounting for Completed Jobs When a job is completed, the costs of the direct material, direct labor, and applied factory expense are totaled on the cost sheet. The total cost is divided by the number of units of the product to arrive at a per unit cost. The unit cost is noted on the cost sheet for future reference.

After the cost sheet is completed, it is filed in a closed job order file, and an entry is made in a "Completed Job Register," illustrated below:

COMPLETED JOB REGISTER
Month of_____

Date Completed	Job No.	Description	Work in Process Cr.	Finished Goods Dr.	Stock Ledger No.

If the job is to be placed in inventory for future shipment, an entry is made in the "Stock Ledger No." column of the above register of the stock number of the product. A corresponding entry is made in the "In" column and in the "Balance" column of the "Finished Goods Stock Ledger" inventory card. If the job is to be shipped to a customer as soon as it is completed, the cost of the job is entered in the completed job register *and* in the sales journal illustrated below. In addition to the cost, the selling price is also entered in the sales journal:

SALES JOURNAL
Month of_____

Date of Sale	Invoice No.	Cost Sheet No.	Customer	Terms	Accounts Receivable Dr. Sales Cr.	Cost of Sales Dr. Finished Goods Cr.

At the end of the month, the columns of the completed job register and the sales journal are totaled and journalized as follows:

Completed Job Register:

Finished goods	xxxx	
Work in process		xxxx

Explanation: To record the cost of completed jobs for the month of_____.

Sales Journal:

Cost of goods sold	xxxx	
Finished goods		xxxx

Explanation: To record the cost of jobs sold.

Accounts receivable	xxxx	
Sales		xxxx

Explanation: To record the sales for the month of_____.

Trial Balance Worksheet A trial balance drawn from the general ledger designed for a cost accounting system using perpetual inventories shows the ending inventories and the cost of goods sold in the same manner as illustrated on pages 46 and 47. An example of a trial balance appears at the end of the following extended illustration of a job order cost system.

Extended Illustration—Job Order Cost Accounting A Pottery Plant manufactures specially designed dinnerware for a few large hotels and restaurants. The following data apply to the month of January, the first month of the company's fiscal year. Two jobs, number 100 and number 101, are in process on January 1.

Beginning inventories:		
Direct material		$2,000
Work in process		6,000
Job #100	$3,000	
Job #101	3,000	
Finished goods		None
Factory supplies		2,000
1. Purchases of direct material		6,000
2. Requisitions on stores:		
Cost sheet 100	500	
Cost sheet 101	500	
Cost sheet 102	2,000	
Cost sheet 103	1,500	
Cost sheet 104	500	5,000
3. Payroll for the month (direct and indirect labor)		5,300
4. Time tickets submitted for work on the following jobs:		
Cost sheet 100	$ 200	
Cost sheet 101	200	
Cost sheet 102	800	
Cost sheet 103	800	
Cost sheet 104	1,000	3,000
5. Factory expenses incurred:		
Indirect labor	$2,800	
Indirect materials	1,400	
Payroll taxes	700	
Depreciation—Building	900	
Repairs and maintenance	700	
Depreciation—Equipment	1,000	
Utilities	800	8,300
6. Factory expenses applied to the jobs at the following rates:		
Clay mixing department—$1.19 per machine hour for 3,300 hours.		
Moulding department—150% of the direct labor cost.		
7. Jobs completed during the month:		
Cost sheet 100		
Cost sheet 101		
Cost sheet 102		
Cost sheet 103		
8. Jobs shipped to customers during the month:	Sale Price	
Cost sheet 100	$8,000	
Cost sheet 101	8,000	
Cost sheet 102	8,000	
9. Factory Expense control account balanced and distributed among the producing and service departments at the end of the month.		

SOLUTION—EXTENDED ILLUSTRATION—JOB ORDER COST ACCOUNTING

Transaction Number	Book of Original Entry	Entry (Posted to the General Ledger)	Dr.	Cr.	Subsidiary Cost Ledger
1	Voucher register	Direct material inventory	6,000		Stores ledger "In" column.
		Vouchers payable		6,000	
		Explanation: Direct materials purchased and placed in the storeroom.			
2	General journal	Work in process	5,000		A charge to the direct material section of cost sheets 100–104; stores ledger "Out" column.
		Direct material inventory		5,000	
		Explanation: Direct material requisitioned.			
3	Payroll journal; Voucher register	Accrued payroll	5,300		Employees' earnings record cards
		Vouchers payable		5,300	
		Explanation: Payroll for the month paid.			
4	General journal	Work in process	3,000		A charge in the direct labor section of cost sheets 100–104.
		Accrued payroll		3,000	
		Explanation: Time tickets turned in by direct laborers in the producing departments during the month, all chargeable to cost sheets.			
5	Voucher register; Payroll journal; General journal	Factory expense control	8,300		
		Accrued payroll		2,800	Factory expense ledger—Dr.
		Factory supplies inventory		1,400	Factory expense ledger—Dr.
		Accrued payroll taxes		700	Factory expense ledger—Dr.
		Allowance for depreciation—Building		900	Factory expense ledger—Dr.
		Vouchers payable		700	Factory expense ledger—Dr.
		Allowance for depreciation—Equipment		1,000	Factory expense ledger—Dr.
		Vouchers payable		800	Factory expense ledger—Dr.
		Explanation: Factory expenses for the month.			

SOLUTION—EXTENDED ILLUSTRATION—JOB ORDER COST ACCOUNTING (*Continued*)

Transaction Number	Book of Original Entry	Entry (Posted to the General Ledger)	Dr.	Cr.	Subsidiary Cost Ledger
6	General journal	Work in process	8,427		
		Factory expense applied—Clay mixing department		3,927	A charge to the factory expense sections of cost sheets 100–104.
		Factory expense applied—Moulding department		4,500	
		Explanation: Expenses applied as follows:			
		Clay mixing department—3,300 machine hours × $1.19 = $3,927			
		Moulding department —$3,000 direct labor × 150% = 4,500			
		$8,427			
7	Completed job register	Finished goods inventory	18,118		Finished goods stock ledger "In" column; Cost sheets 100, 101, 102, and 103 totaled and filed.
		Work in process		18,118	
		Explanation: Jobs completed during the month, as follows:			

Cost Sheets	100	101	102	103	104	Totals
Beginning inventory	$3,000	$3,000				$ 6,000
Direct material requisitioned	500	500	2,000	1,500	500	5,000
Direct labor per time tickets	200	200	800	800	1,000	3,000
Factory expenses applied:						
* Clay mixing dept.	238	238	952	1,190	1,309	3,927
Moulding dept.	300	300	1,200	1,200	1,500	4,500
Totals	$4,238	$4,238	$4,952	$4,690	$4,309	$22,427
Machine hours	200	200	800	1,000	1,100	3,300

* Based on machine hours.

Summary of jobs completed:

Cost sheet 100	$ 4,238
Cost sheet 101	4,238
Cost sheet 102	4,952
Cost sheet 103	4,690
Total	$18,118

8	Sales journal	Cost of goods sold	13,428		Finished Goods Stock ledger "Out" column.
		Finished goods inventory		13,428	

Explanation: Cost of jobs sold during the month:

Cost Sheet	Cost
100	$ 4,238
101	4,238
102	4,952
Total	$13,428

8	Sales journal	Accounts receivable	24,000		
		Sales		24,000	

Explanation: Sales for the month:

Cost Sheet	Sales Price
100	$ 8,000
101	8,000
102	8,000
Total	$24,000

9	General journal	See page 629			Factory expenses in the subsidiary expense ledger are totaled and distributed among the factory departments.

SOLUTION—EXTENDED ILLUSTRATION—JOB ORDER COST ACCOUNTING (*Continued*)

A POTTERY PLANT
Trial Balance *
End of the Month

Accounts receivable	24,000	
Direct material inventory	3,000	
Work in process (cost sheet 104)	4,309	
Finished goods inventory (cost sheet 103)	4,690	
Factory supplies inventory	600	
Vouchers payable		12,800
Accrued payroll		500
Accrued payroll taxes		700
Allowance for depreciation on buildings		900
Allowance for depreciation on equipment		1,000
Sales		24,000
Cost of goods sold	13,428	
Factory expense—Clay mixing department	3,950	
Factory expense—Moulding department	4,350	
Factory expenses applied—Clay mixing department		3,927
Factory expenses applied—Moulding department		4,500
Other credits (investment in beginning inventory)		10,000
	58,327	58,327

* The foregoing trial balance shows only the accounts from the extended illustration. Various other accounts, such as Cash and Capital Stock would be shown in a complete trial balance.

Statement of Cost of Goods Sold—Job Order Cost Accounting The above trial balance omits the details from which a classified statement of cost of goods sold can be prepared. It is necessary, therefore, to analyze the general ledger inventory accounts. The following are the inventory control accounts as they appear on the general ledger of A Pottery Plant, the balances of which are shown in the above trial balance.

Direct Materials Inventory

Beginning inventory	2,000	5,000 Requisitions (2)	
(1) Purchases	6,000		

Accrued Payroll

(3) Payroll paid	5,300	3,000 Time tickets charged to Cost sheets (4)	
		2,800 Indirect labor (5)	

Work in Process Inventory

Beginning inventory	6,000	18,118 Completed jobs (7)	
(2) Direct material	5,000		
(4) Direct labor	3,000		
(6) Factory expense applied	8,427		
(Balance 4,309)			

Finished Goods Inventory

(7) Jobs completed	18,118	13,428 Jobs sold (8)	

Cost of Goods Sold

(8) Jobs sold	13,428		

A POTTERY PLANT — **Exhibit D**

Statement of Cost of Goods Sold

For the month of January, 19—

Material Used:		
Beginning inventory of direct material	$2,000	
Purchases	6,000	
Total direct material	$8,000	
Ending inventory of direct material	3,000	$ 5,000
Direct Labor		3,000
Factory Expense Applied *		8,427
Total Factory Cost		$16,427
Work in process inventory, beginning		6,000
Total		$22,427
Work in process inventory, ending		4,309
Cost of Goods Manufactured		$18,118
Finished goods inventory, beginning		none
Total Cost of Goods for Sale		$18,118
Finished goods inventory, ending		4,690
Cost of Goods Sold		$13,428 †

* At the end of the fiscal year the actual expenses may be listed instead of the applied expenses. The Cost of Goods Sold would then include the Over or Under absorbed factory expense.

† From this figure may be subtracted the "Over-Absorbed Factory Expense" of $127, represented by the net balances of the following accounts in the trial balance:

Accounts	Debit Balances	Credit Balances
Factory expense—Clay mixing dept.	$3,950	
Factory expense—Moulding dept.	4,350	
Factory expenses applied—Clay mixing department		$3,927
Factory expenses applied—Moulding department		4,500
Totals	$8,300	$8,427
Subtract expenses incurred		8,300
Over-Absorbed Factory Expenses (Credit Cost of Goods Sold)		$ 127

Process Cost Accounting Distinguished from Job Order Cost Accounting

On page 615, job order cost accounting is described as emphasizing the cost of a job rather than that of the operations or departments through which the job passes. Job order cost accounting is also distinctive in associating the costs of direct materials, direct labor, and factory expense with a specific lot of a product. Furthermore, the cost of a job is determined when it is completed, and this may occur at any time during the accounting period, or may span several accounting periods as in the case of a construction job.

Process cost accounting procedures, on the other hand, have the following characteristics:

1. The primary emphasis is upon the department or the operation.
2. The costs of direct materials, direct labor, and factory expenses are associated primarily with the department through which the product passes rather than with the product.
3. Costs relative to the product are determined at regular intervals, e.g., each day, each week, or each month.
4. Process cost accounting procedures are found in use in mass-production industries where production is geared to a wide market rather than a specific customer, e.g., a food processing company such as a manufacturer of cereals.
5. The variety of specifications for products manufactured in a process-cost type of industry is often dictated by forecasts of consumers' needs rather than by being initiated at the request of a specific customer.

The Cost and Production Report In place of the job order cost sheet as a device for accumulating costs, a process cost system uses a "Cost and Production Report." This report is prepared for each producing department at the end of a pre-established period of time. Two kinds of information are included in the report that is prepared for the cost department.

1. The costs of direct materials, direct labor, and factory expenses chargeable to each producing department for a period of time. The time period is largely dependent upon the length of the production period; e.g., a batch of ice cream may require a day to produce, while a batch of paint may take a week to mix, grind, and place in containers.
2. The quantity of product started, finished, and in process in a producing department during the period for which the costs are accumulated. The number of units of production may be expressed in the units of the direct materials used, or in terms of the units of the finished

product. For example, powder used in making paint is requisitioned from stores in pounds; but on the production report in the department where the powder is mixed with linseed oil, the reference is in gallons of paint.

An illustration of a cost and production report appears as follows. This report covers the operations of the "Clay Mixing Department in A Pottery Plant" for a week. The pottery plant in this illustration differs from the one previously shown in this chapter in that it manufactures a standard type of dinnerware on a mass-production basis, using automated machinery. The *output* of the clay mixing department is expressed in *numbers of pieces of ware,* even though the direct materials coming into the department are in *tons of clay.*

Particular attention is directed to the computation of the *equivalent production.* This is the output of the department *expressed in terms of finished units.* This equivalent computation is necessary when there is a beginning or ending inventory of work in process upon which only a part of the costs of production have been expended. The costs of production for the period covered by the report must therefore be prorated between the quantity of the product finished and the quantity of product

A POTTERY PLANT
Cost and Production Report
Clay Mixing Department
Week ending_____

Costs to be accounted for:		
Direct material	$ 1,000	
Direct labor	2,000	
Factory expense applied	1,190	
Total Departmental Cost		$4,190
Production to be accounted for:		
Quantity started in production (pieces)	50,000	
Production accounted for:		
Finished and transferred to the moulding department (pieces)	30,000	
In process (½ finished) (pieces)	20,000	
	50,000	
Equivalent production:		
Finished and transferred (pieces)	30,000	
In process (½ × 20,000) (pieces)	10,000	
	40,000	
Unit cost:		
$4,190 ÷ 40,000 pieces = (per piece)	$.10475	
Costs accounted for:		
Finished and transferred (30,000 pieces × $.10475)	$3,142.50	
In process (20,000 pieces × ½ × $.10475)	1,047.50	$4,190

still in process. In order to derive a unit cost of production, the costs for the period are divided by the equivalent production computed as follows:

Units finished	30,000 pieces
Units in process: *	
20,000 × ½ completed =	10,000
Equivalent production	40,000 pieces

* In the computation above, the units are considered to be one-half completed as to materials as well as labor and factory expense. There is no beginning inventory of work in process. The estimation of the percentage of completion of the inventory is the responsibility of the foreman in charge of the department.

Process Cost Accounting Entries In a process cost accounting system, there is one Work in Process account for each producing department. The procedures for requisitioning direct materials, time keeping, and accounting for factory expenses are the same under a process cost system as under a job order system, and are therefore not repeated here. Using the Cost and Production Report on page 641 as an example, the following entries are made for the Clay Mixing Department for the week.

(1)	Work in process—Clay mixing department	1,000	
	Direct material inventory		1,000
	Explanation: To record direct material requisitioned.		
(2)	Work in process—Clay mixing department	2,000	
	Accrued payroll		2,000
	Explanation: To record direct labor employed in the operations of the clay mixing department.		
(3)	Work in process—Clay mixing department	1,190	
	Factory expense applied—Clay mixing department		1,190
	Explanation: To record factory expenses prorated to the clay mixing department for the week ending ____ on the basis of 1,000 machine hours at a predetermined rate of $1.19 per hour.		
(4)	Work in process—Moulding department	3,142.50	
	Work in process—Clay mixing department		3,142.50
	Explanation: To record the transfer of 30,000 pieces of dinnerware at a unit cost in the clay mixing department of $.10475 per piece.		

The accounts in the general ledger of a process cost system differ from those of a job order system in usually one respect—instead of a work in process account to which direct material, direct labor, and factory expense from *all* producing departments is debited, there is one work in process account for each department. The costs of direct material, direct labor, and factory expense are debited to the departmental work

in process account in the department where they originate. At the end of the month, usually, the total cost of the product finished in a department is transferred to the next department for further processing, and so on until the product is manufactured and put into finished goods inventory for sale to customers. The transfer is accomplished on the books by a general journal entry debiting the departmental work in process account *to which* the transfer is made, and crediting the departmental work in process account *from which* the transfer is made. The balance, if any, in the departmental work in process accounts represents the cost of the incomplete work in the department at the end of the month. In preparing a balance sheet, the balances in the departmental work in process accounts are totaled and usually shown as one amount on the balance sheet.

To illustrate, the foregoing entries are posted below to the two departmental work in process accounts—Clay Mixing and Moulding: The entries are keyed to the journal entries.

Work in Process Clay Mixing Department

(1) Direct material	1,000.00	3,142.50	Cost of product finished in the clay mixing department (4)
(2) Direct labor	2,000.00		
(3) Applied expense	1,190.00	1,047.50	Account balance
	4,190.00	4,190.00	

Work in Process Moulding Department

(4)	3,142.50		

The entries for additional direct material, direct labor, and factory expense incurred in the moulding department are not illustrated. They are the same as the entries in the clay mixing department.

QUESTIONS

1. In what respects does cost accounting differ from financial accounting?
2. What purposes are served by cost accounting?
3. What are some differences between job order cost accounting and process cost accounting?
4. How are direct materials accounted for in a cost system that is tied in with the general ledger?
5. How is direct labor accounted for in a cost system that is tied in with the general ledger?
6. How is a predetermined factory expense rate calculated?
7. What are the advantages of charging estimated factory expenses to work in process rather than actual expenses?
8. What is the purpose of a cost sheet? What are other terms used as a reference to a cost sheet?

9. What end of month entries are made from the following journals as used in a cost system? (a) Completed job register. (b) Sales journal.
10. How does a trial balance taken from a general ledger of a manufacturing enterprise with a cost system differ from one that does not have a cost system?
11. What is meant by "equivalent production" as used in process cost accounting?

PROBLEMS

Problem 27-1

The following information is taken from the records of a job order cost system:

(a) Direct material purchased.	$15,000
(b) Direct labor.	30,000
(c) Factory expense control.	42,000
(d) Direct material requisitioned.	10,000
(e) Factory expense applied to production on the basis of 150% of direct labor cost.	
(f) Cost of completed jobs.	60,000
(g) Cost of goods sold.	55,000

Required:

(A) Prepare all the necessary journal entries to record the above information.

(B) Adjust for any difference between the actual and applied factory expense to the Cost of Goods Sold account, indicating in the explanation to the entry whether the difference is an "Over" or "Under Applied Expense."

Problem 27-2

The Simpson Co. was organized on January 1, 19—. A public accountant designed a job order cost system, and included the following accounts:

Direct Material Inventory	Accrued Payroll
Factory Supplies Inventory	Accounts Payable
Work in Process Inventory	Allowance for Depreciation
Finished Goods Inventory	Accrued Taxes
Cost of Goods Sold	Prepaid Insurance
Factory Expense Control	

During the year, the following transactions occurred:

1. Purchased direct material in the amount of $50,000; of which $45,000 was requisitioned for jobs in process.
2. Purchased factory supplies costing $40,000 on account, and used $35,000 during the year.
3. Factory wages earned amounted to $80,000, of which $30,000 was for indirect labor.
4. Paid factory wages of $75,000.
5. Outside service charges for utilities paid in the amount of $6,000.
6. Fixed charges incurred for:
   (a) Depreciation $6,000.
   (b) Taxes $4,000.
   (c) Expired insurance premiums $5,000.

7. Factory expenses were charged to the jobs in process on the basis of 175% of the direct labor cost.
8. Jobs costing $180,000 were finished; and jobs costing $170,000 were sold.

Required:

(A) Record the foregoing transactions in T accounts, directly. Index or key the entries to the numbered transactions above.
(B) Prepare a detailed statement of cost of goods sold.

Problem 27-3

The De-O-Dor company manufactures "Wifo," a patented cleanser. The following cost and production data for the week ended April 25, 19—, was prepared.

	Mixing Department	Packing Department
Production Costs:		
Direct material	$ 1,000	$ 500
Direct labor	500	100
Factory expense applied	1,000	500
Totals	$ 2,500	$ 1,100
Production Quantities:		
Gallons started	20,000	20,000
Gallons finished and transferred	20,000	15,000 *

* The product remaining in the inventory of the packing department is in large vats which have been transferred from the mixing department. No cost has been incurred in the packing department on the product remaining.

Required:

(A) Prepare journal entries based on the above information for the cost of production for the week as they were incurred in the two departments. Set up separate Departmental Work in Process accounts.
(B) What is the cost per gallon for the week? Carry the unit cost to four decimal places.

Problem 27-4

Prepare a table of entries in the form of parallel columns, as illustrated below, and record the following transactions as they affect the general and subsidiary ledgers of a company using a cost accounting system based on perpetual inventories controlled by the general ledger:

Suggested Headings:

Transaction No.	General Ledger accounts	Dr.	Cr.	Subsidiary Ledger entry

Transactions:

1. Direct materials costing $500 returned to the vendor from the storeroom.
2. Direct materials costing $400 returned to the storeroom from the factory, since they were the wrong materials requisitioned for a job.
3. Adjustment of the difference in direct material inventory when the book value is greater than a physical inventory value. The difference amounts to $750.

4. A manufactured product costing $800, with a selling price of $1,600, is returned to the factory by a customer for credit.
5. Ten per cent of the parts made on a job costing $200 for materials, $300 for direct labor, and $400 for factory expense spoiled and sold as scrap for $10.
6. Soft drinks costing $1,000 are bottled and put into cases and transferred to the storeroom.
7. Direct materials costing $600 are purchased for Job 123 and are transferred directly to the factory from the receiving department.
8. A machine operator in a printing plant works eight hours at $3 per hour on maintenance.
9. A factory cafeteria costs $2,000 over revenues to operate for the month of June. The cafeteria is used by two factory producing departments —A, with 150 employees, and B, with 50 employees.

Problem 27-5

The Bright Metals Co. operates with three factory departments:

Producing Department A
Producing Department B
Service Department C

The following costs were incurred during the month of March:

Subsidiary Expense Account	Amount	Basis of Allocation
Indirect labor	$ 9,000	1
Indirect materials	4,000	2
Payroll taxes	800	3
Utilities	2,000	4
Insurance	1,000	5
Depreciation	3,000	6
Total factory expense	$19,800	

Bases of Allocation:

1. Department A, $3,000; Department B, $4,000; Department C, $2,000.
2. Department A, $2,000; Department B, $1,000; Department C, $1,000.
3. Department A, 50%; Department B, 25%; Department C, 25%.
4. Department A, 75%; Department B, 20%; Department C, 5%.
5. Department A, 40%; Department B, 50%; Department C, 10%.
6. Department A, 80%; Department B, 10%; Department C, 10%.

Required:

(A) Prepare a "Departmental Expense Allocation Worksheet," showing the allocation of the factory expenses to the three departments for the month of March. Allocate Department C to Departments A and B on a 50–50 basis.

(B) Prepare journal entries closing the Factory Expense Control account at the end of the month into the Departmental Factory Expense Control accounts; and transferring the service department expense to the two producing departments.

(C) Assuming that the factory expenses for the month of March are normal and represent the expenses that should be incurred during the subsequent months of the year, compute a predetermined factory expense rate for the two producing departments based on the following:
Department A—$10,000 of direct labor cost expected each month.
Department B—4,000 machine hours expected each month.

SUPPLEMENTARY PROBLEMS

Problem 27-6

Given the following three months' trial balance of the Euphoria Company as of December 31, 19—. The Euphoria Company is a chemical company and records transactions in the manner of a process cost accounting system.

EUPHORIA COMPANY
Trial Balance
December 31, 19—

Cash	32,000	
Accounts receivable	19,000	
Direct material inventory, Dec. 31, 19—	15,000	
Work in process—Department A	2,000	
Work in process—Department B	1,500	
Finished goods	12,500	
Allowance for inventory adjustment		4,100
Land and buildings	120,400	
Machinery and equipment	85,000	
Patents	26,000	
Allowance for depreciation		114,900
Accounts payable		21,000
Accrued expenses		8,000
Capital stock		5,000
Retained earnings		45,500
Sales		260,000
Cost of goods sold	90,000	
Inventory adjustment (Reduce finished goods inventory to physical inventory valuation)	4,100	
Factory expenses control	28,000	
Factory expense applied		27,000
Selling expense control	40,000	
General expense control	18,000	
Royalties received		8,000
	493,500	493,500

The following accounts appear in the general ledger:

Direct Material Inventory

Oct. 1, inventory	14,000		
Oct. 31	12,000	12,000	Oct. 31
Nov. 30	10,000	10,000	Nov. 30
Dec. 31	16,000	15,000	Dec. 31
		15,000	Dec. 31 inventory
	52,000	52,000	

Accrued Payroll (direct labor)

Oct. 31	9,000	9,000	Oct. 31
Nov. 30	9,000	9,000	Nov. 30
Dec. 31	9,000	9,000	Dec. 31

Work in Process Dept. A

Oct. 1, inventory	3,000		
Oct. 31	7,000		
	4,500		
	4,500	16,000	Oct. 31
Nov. 30	8,000		
	4,500		
	4,500	17,000	Nov. 30
Dec. 31	9,000		
	4,500		
	4,500	19,000	Dec. 31
	54,000	52,000	

Work in Process Dept. B

Oct. 1, inventory	1,000		
Oct. 31	16,000		
	5,000		
	4,500		
	4,500	30,000	Oct. 31
Nov. 30	17,000		
	2,000		
	4,500		
	4,500	28,000	Nov. 30
Dec. 31	19,000		
	6,000		
	4,500		
	4,500	33,500	Dec. 31
	93,000	91,500	

Finished Goods Inventory

Oct. 1, inventory	11,000		
Oct. 31	30,000	30,000	Oct. 31
Nov. 30	28,000	28,000	Nov. 30
Dec. 31	33,500	32,000	Dec. 31
	102,500	90,000	

Cost of Goods Sold

Oct. 31	30,000		
Nov. 30	28,000		
Dec. 31	32,000		
	90,000		

Required:

(A) Prepare a detailed statement of cost of goods sold, showing the details of the costs of direct material, direct labor and factory overhead.

(B) Prepare closing entries as of December 31, 19—.

(Forms 8, 3)

Problem 27-7

Refer to Problem 27-6. From the figures posted to the illustrated general ledger accounts—Direct Material, Accrued Payroll, Work in Process—Department A, Work in Process—Department B, Finished Goods Inventory, and Cost of Goods Sold—prepare all the journal entries that were made during the month of October.

(Form 3)

Problem 27-8

The following figures are taken from the general ledger of the Exigesis Co. at the beginning of the year and at the end of the year.

	Beginning Balance	Ending Balance
Direct material inventory	80,000	100,000
Work in process inventory	140,000	220,000
Finished goods inventory	94,000	120,000
Factory expense control		180,000
Direct material returned		10,000
Direct labor		200,000
Direct material purchased		600,000
Cost of goods sold		864,000

Required:

(A) Determine the cost of direct material used during the year.

(B) Calculate the rate of factory overhead expense based on direct labor used during the year.

(Form 3)

Problem 27-9

The Exodus Company uses a job order cost system. The following transactions occurred during the month of January.

(a)	Direct materials purchased	$120,000
(b)	Direct materials requisitioned for use on job orders	75,000
(c)	Factory supplies purchased and put into inventory	4,000
(d)	Factory supplies requisitioned	3,000
(e)	Direct labor	150,000
(f)	Indirect labor	50,000
(g)	Repairs and maintenance	5,000
(h)	Rental of factory building (25% of the building is used as a warehouse for the finished goods inventory)	3,000
(i)	Cost of job orders completed	225,000
(j)	Job orders sold, cost	215,000
	Selling price	500,000
(k)	The factory overhead expense is applied to production on the basis of 50% of direct labor cost.	

Required:

(1) Record the foregoing entries in T accounts, and prepare a trial balance at the end of the month. Key each entry according to the letters of the transactions.

(2) Indicate which accounts in the trial balance are controlling accounts with the letter "C" opposite the figure.

(Forms 3, 4)

28

Analysis of Financial Statements

The Need for Financial Statement Analysis

What do the figures mean? This question is often asked of the accountant by: (a) management, (b) bankers and other lenders, (c) suppliers, (d) labor, (e) government, (f) investors, and (g) students of economics and finance. It has been said that accounting is the language of business. Any language is a means of communication of information and ideas. If accounting is to be considered as the language of business, it should be looked upon as something more than record keeping. It is through financial statements and an analysis of these statements that accounting communicates and interprets the storehouse of valuable and indispensable information found in the underlying records and books of account. Almost every decision made by those who manage the affairs of a business enterprise is at some time a matter of accounting record.

Accounting records communicate the results of the operations of a business enterprise through a variety of financial statements, each of which tells a part of the story that makes up the financial history of an organization. The balance sheet, for instance, is a statement of the assets, liabilities, and owners' equity as of a given date. Properly prepared by an expert accountant, the balance sheet is a statement of financial condition of a business enterprise as of a given date. In the income statements of corporations, partnerships, and individual proprietorships, and the statement of retained earnings of corporations, or statements of capital of partnerships and individual proprietorships, one finds the results of the operations covering a period of time. These statements and supporting schedules provide interested parties, such as those mentioned above, with a *basis* for analysis and interpretation of the results of the operations and the condition of a business enterprise.

In order to lay out a plan or program for the analysis of financial statements, the points of view of management and other interested parties should be considered. It is desirable to understand their points of view, not to restrict or limit the analysis but to give it an objective or direction. Management, bankers, and others all need certain essential information that will be outlined in the following sections of this chapter, but they do not all need the same information for the same reasons. Therefore, having some knowledge of the reasons for analyzing financial statements is a distinct aid in planning the analysis.

Management's primary concern is the achievement of an optimum profit resulting in a satisfactory return to the owners for their investments. Of all the parties who are interested in analyzing financial statements, management's view and approach is probably the most comprehensive. Management wants to know not only what its present financial condition is but whether it is improving. It wants to know not only that it has earned a net income, but whether the net income is increasing or decreasing relative to that of the prior year, and how the net income based on the owners' investments compares with that of its competitors. These are fundamental questions to management and are a few of the many questions for which answers may be found through analysis of the financial statements. For example, the income statements for several years will not reveal *why* sales have decreased, but they will reveal the extent of the decrease. The decrease is shown by products, if the statements are departmentalized in the manner described in Chapter 25.

Bankers and other lenders supply working capital and fixed capital to business enterprises. In the majority of cases, bankers deal in short-term credit. Therefore, a banker's objectives may be somewhat more limited than those of management. However, while bankers are interested ultimately in the repayment of their loans, they are also interested in the progress of their borrowers. A periodical analysis of their borrower's financial statements, together with a knowledge of the men who make up the management, are distinct aids to the banker and other lenders in dealing with a debtor company.

Suppliers selling on short-term credit frequently ask for financial statements for the purpose of analyzing their customer's financial position as a guide to further credit extension and collection procedures.

Employees and organized labor are directly interested in the financial progress and the financial condition of employers as a basis for labor contract negotiations.

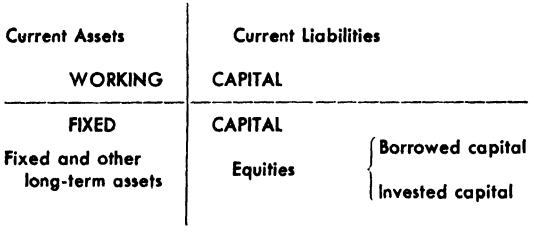
Governmental organizations, such as the Internal Revenue Service and the Securities and Exchange Commission, analyze the financial statements of taxpayers and of companies seeking to issue securities. For example, an internal revenue agent may analyze the gross profit of a

taxpayer company and compare it with the gross profit earned by other firms in the same industry.

Students of economics and finance will find that published financial reports of leading companies are a fruitful source of information concerning a particular industry in which they may be interested.

Investors seeking a source of investment, either in capital stock or bonds, often base their decision to buy or to sell these securities on information revealed by a study of financial statements.

Because the various interested parties may have a different reason or objective for analyzing financial statements, they may begin their analysis with different statements or with different sections of the same statements. The following diagram of a balance sheet graphically shows the focal points of interest in this statement:



The term "equity" in the above diagram refers to an interest in, or a claim to, assets. Both creditors and owners have an "equity" in the assets although the legal rights of each in the assets is different, as explained in Chapter 21. As a generalization, the short-term creditors will focus their attentions primarily on the upper half of the balance sheet, i.e., the working capital, because this is the source from which they will usually derive payment. Long-term investors and long-term lenders, broadly referred to as "equities," are usually more interested in the lower half of the balance sheet, i.e., the fixed capital section.[1] In developing a plan or approach to financial statement analysis in this chapter, no particular point of view is taken. Instead, the balance of the chapter is devoted to the principal features of the balance sheet and the income statement. Each statement and each area within each statement is analyzed in a broad, coherent manner, thus permitting any party to work out his own approach, but providing all parties at the same time with the principal features of statement analysis.

[1] In Chapter 21, the proprietorship investment and retention of earnings is termed "Equity" financing to distinguish from financing through the use of borrowed capital, termed "Debt" financing. Both investments and debts create equities in the form of claims upon the assets. This is the sense in which "equity" is used in this chapter.

Qualifications and Assumptions

There are certain limiting factors and assumptions an analyst should consider that will affect the approach he will take and, most of all, the validity of any conclusions that he may draw.

1. More than one year's statements, and preferably the statements for several years, should be analyzed together. The financial statements for only one year will not reveal trends that comparative statements for several years will reveal. Any conclusions, therefore, that may be made on the basis of the statements for a single year are less reliable than those based on related statements for several consecutive years.

2. An analysis of the financial statements of an enterprise is best undertaken if the analyst understands the management's policies, the nature of its activities, the condition of the industry it is in, and economic conditions in general. If this information is not readily available, as is so often the case, the results of any analysis should be viewed much more carefully.

3. The ratios, percentages, and comparative figures in which the results of an analysis are usually expressed are not minutely accurate indicators, like a scientifically calibrated gauge, and therefore must be used with caution. Moreover, all of the ratios and percentages computed in the illustrations on the following pages should be compared with similar ratios and percentages for other companies in the same industry. Industry figures are often available through trade associations, credit bureaus, business and professional accounting and financial magazines, and governmental publications.

4. The date of the balance sheet and the period of time covered by the income statement are important when viewed in relationship to the *natural business year* of the enterprise being studied. It is important to know whether the statements of a concern are prepared at a time when its business activity is at its peak or at its lowest level. Accounts receivable and inventories in particular fluctuate throughout the year in many business concerns.

The Natural Business Year The natural business year is a period of 12 consecutive months, ending at a time when the economic activities of a business enterprise are at their lowest level. Accountants recommend that the fiscal year of a business enterprise coincide with its natural business year. One reason for their recommendation is that the time consumed in taking the year-end inventory is reduced because the inventory is at its lowest level at the end of its natural business year. In addition, the preparation of adjusting entries and the closing of the books are more easily accomplished at this time. A public accountant,

for instance, is better able to render service to his clients if some of their fiscal years end on a date other than December 31.

December 31 has been and probably still is the date most commonly chosen to end the fiscal year. A certified public accountant may find it difficult to render service to his clientele if the bulk of his work falls at the end of the calendar year. Many business concerns may find that the added year-end work of taking an inventory, closing the books, and preparing financial statements and tax returns is unduly burdensome if it comes at the end of the calendar year. For many concerns, this is the busiest time of the year. The following is a list of suggested fiscal year closing dates for several selected industries.[2]

MANUFACTURING		NON-MANUFACTURING	
Men's clothing	October	Orange groves	September
Automobiles	September	Building contractors	February
Candy	June	Department stores	January
Ice cream	December	Groceries	June
Motion pictures	August	Drugs	January
Toys	September	Filling stations	September

SERVICES	
Colleges	June
Cemeteries	March
Restaurants	June
Hospitals	September

The Steps in Analyzing Financial Statements

The first step in analyzing financial statements is to become familar with the background information, i.e., the nature of the industry, the fiscal year of the company, the products sold, the extent of the markets in which the company sells, and any other pertinent information which the analyst will need for an understanding of the company's operations. It is well to keep in mind that the success or failure of any enterprise rests largely in the hands of the management. A knowledge of the character and capabilities of the management may be as important as knowledge of the financial figures. While many of management's decisions ultimately appear in the financial statements, it may be some time before a good or a bad condition or a trend becomes apparent. Hence, it is well to know who is guiding a company's operations.

The next step in analyzing financial statements is to lay out the work according to the following plan:

Vertical analysis This simply means to calculate the percentage of each figure in each year's financial statements to a related total, e.g.,

[2] "Suggested Fiscal Closing Dates," a pamphlet prepared by the Natural Business Year Committee of the American Institute of Certified Public Accountants, New York, 1955.

each of the assets in the balance sheet is expressed as a percentage of the total assets. Specifically, each current asset may be expressed as a percentage of the total current assets. Each cost and expense account and the net income may be expressed as a percentage of the net sales. The result of this vertical analysis might be termed a financial "profile" of the company.

Horizontal analysis In order to perceive some evidence of the changes that have taken place from one year or period to another, the current year's figures may be compared with those of the preceding year. The dollar increases or decreases may then be divided by the preceding year's figures (used as a base), and the quotient expressed as a percentage of the base figure.

Statement relationships After the figures in the financial statements are expressed as percentages, in the manner described above, the figures under one classification may be compared with figures under another classification. There must of course be a logical relationship between the figures. For example, the current liabilities can logically be compared with the current assets, because the current assets are the source from which the current liabilities are usually paid. By dividing one figure into another, a ratio is derived, e.g., if the current liabilities of $200,000 are divided into the current assets of $400,000, the result is a ratio of 2 to 1. In other words, the current assets are twice as large as the current liabilities. Another way of expressing the same ratio is that there are two dollars of current assets for every dollar of current liabilities.

Supplementary statement analysis In addition to vertical and horizontal analyses of the figures in each of the financial statements, and a ratio analysis of related figures in different sections of the statements, a variety of special purpose statements can be prepared. Two of these special purpose statements are mentioned at this point and described in detail later in the chapter.

(a) *A statement of the causes of the changes in gross profit.* In this statement, the principal factors that cause a change in the gross profit from one accounting period to another are illustrated, viz., changes in the sales and changes in the cost of sales.

(b) *A statement of application of funds.* In this statement, the changes in the working capital from one period to another are analyzed.

Extended Illustration—An Analysis of the Balance Sheet

Preliminary Analysis The balance sheets on page 656 are prepared from the general ledger of a wholesale distributor of marine supplies and industrial hardware as of February 28, 1961 and 1962. On February 28, the company's inventories are usually at their lowest levels. Very little marine inventory is on hand at this time of the year, because there

is very little activity on the Great Lakes, the region in which the company operates. The company has five stockholders, all of whom are active in the business as officers of the company. The operations are conducted in a well-constructed brick building that houses the company's offices and warehouse. The building is located adjacent to a wharf. Part of the office space is rented to a trucking company. Discount and credit terms are as follows: 2/10, n/30 for industrial hardware and n/10 for marine supplies. During 1962, the sales of marine supplies decreased because of a late spring season that kept the shipping lanes on the lakes closed for several weeks longer than usual.

EXTENDED ILLUSTRATION—A VERTICAL AND HORIZONTAL ANALYSIS OF THE BALANCE SHEETS

A MARINE AND INDUSTRIAL SUPPLY CO.
Comparative Balance Sheets
as of February 28, 1962 and 1961

	February 28, 1962		February 28, 1961		Increase (Decrease)	
	Amount	%	Amount	%	Amount	%
Current Assets:						
Cash	$ 13,650	6.00	$ 17,400	8.00	$(3,750)	(21.6)
Accounts receivable	38,675	17.00	43,500	20.00	(4,825)	(11.1)
Inventories (cost)	61,425	27.00	50,025	23.00	11,400	22.8
Prepaid expenses	2,275	1.00	2,175	1.00	100	4.6
Total Current Assets	$116,025	51.00	$113,100	52.00	$ 2,925	2.6
Fixed Assets (details omitted)	$151,475		$134,400		$17,075	12.7
Allowance for depreciation	40,000		30,000		10,000	33.3
Total Fixed Assets	$111,475	49.00	$104,400	48.00	$ 7,075	6.8
Total Assets	$227,500	100.00	$217,500	100.00	$10,000	4.6
Current Liabilities:						
Accounts payable	$ 22,750	10.00	$ 32,625	15.00	$(9,875)	(30.3)
Note payable	—0—		2,175	1.00	(2,175)	(100.0)
Accrued expenses	4,550	2.00	4,350	2.00	200	4.6
Total Current Liabilities	$ 27,300	12.00	$ 39,150	18.00	$(11,850)	(30.3)
Fixed Liabilities:						
Mortgage payable	$ 9,100	4.00	$ 10,875	5.00	$(1,775)	(16.3)
Total Liabilities	$ 36,400	16.00	$ 50,025	23.00	$(13,625)	(27.2)
Owners' Equity:						
Capital stock, par value $5.00	$113,750	50.00	$ 97,875	45.00	$ 15,875	16.2
Retained earnings (Exhibit B)	77,350	34.00	69,600	32.00	7,750	11.1
Totals	$191,100	84.00	$167,475	77.00	$ 23,625	14.1
Total Liabilities and Owners' Equity	$227,500	100.00	$217,500	100.00	$ 10,000	4.6

Vertical and Horizontal Analysis The assets of both balance sheets on page 656 are expressed as a percentage of the total assets, equaling 100%. At February 28, 1962, the current assets comprised 51% of the total assets, and at February 28, 1961, 52%. While there was only a 1% change in the respective totals of the current assets to total assets, there was a large change in the percentage of most of the current assets to the total assets for each year. At February 28, 1962, the cash and accounts receivable made up 23% of the total assets, while at February 28, 1961, they made up 28%. Consequently, the company was somewhat less liquid at the end of the current year. *Liquidity* is a term describing the financial condition of a company in so far as its assets can be converted into cash to meet its currently maturing obligations.

At February 28, 1962, the current liabilities comprised 12% of the total of the liabilities and owners' equity and 18% at February 28, 1961. Considering, too, that the fixed liabilities at February 28, 1962, were only 4% of the total compared with 5% on February 28, 1961, the company has improved its financial condition to the extent that it has considerably reduced its obligations to creditors. This may account, in part, for the reduced liquidity of the current assets.

Looking at the changes that took place from February 28, 1961, to February 28, 1962 (i.e., horizontal analysis), the current assets increased by $2,925 or by 2.6%. The current liabilities decreased by $11,850 or by 30.3%. The effect of an increase in current assets and a decrease in current liabilities is to cause a net increase in the *working capital* (i.e., the excess of the current assets over the current liabilities). The *causes* of the changes in working capital are examined later in the chapter.

Fixed assets increased by $17,075 or by 12.7%. The allowance for depreciation increased by $10,000, or 33.3%. It would be well to inquire into the large increase in the depreciation allowance. Is the increase due to the use of an accelerated method of depreciation on equipment purchased in the current year? Many published statements do not reveal the rates of depreciation being used by a company. This information may be known only to the management. It may well be that the only significant difference between two companies being analyzed, or even two years' statements of the same company, is in the method and rate of depreciation. For this reason, the analyst should have some knowledge of the accounting policies of the company he is investigating.

The owners' equity of the company increased by $23,625, or by 14.1%. A large percentage of the increase came from an additional investment in capital stock ($15,875 or 16.2% increase). This also causes an increase in the working capital during the year 1961–1962.

Illustration Continued—Analysis of the Statement of Income and Retained Earnings The statements of income and retained earnings on

A MARINE AND INDUSTRIAL SUPPLY CO.

Statement of Income and Retained Earnings

For the Fiscal Years Ended February 28, 1962 and 1961

	Fiscal Years Ended					
	February 28, 1962		February 28, 1961		Increase (Decrease)	
	Amount	%	Amount	%	Amount	%
Sales	$821,386	100.50	$922,080	100.50	$(100,694)	(10.92)
Returned sales and allowances	4,086	.50	4,580	.50	(494)	(10.79)
Net Sales	$817,300	100.00	$917,500	100.00	$(100,200)	(10.92)
Cost of Goods Sold:						
Beginning inventory	$ 50,025		$ 60,075		$(10,050)	(16.73)
Purchases	624,375		650,550		(26,175)	(4.02)
Total merchandise for sale	$674,400		$710,625		$(36,225)	(5.10)
Ending inventory	61,425		50,025		11,400	22.79
Cost of Goods Sold	$612,975	75.00	$660,600	72.00	$(47,625)	(7.21)
Gross Profit	$204,325	25.00	$256,900	28.00	$(52,575)	(20.47)

Operating Expenses:						
Selling expenses	$122,595	15.00	$146,800	16.00	$(24,205)	(16.49)
Administrative expenses	62,479	7.64	74,879	8.16	(12,400)	(16.56)
Total Expenses	$185,074	22.64	$221,679	24.16	$(36,605)	(16.51)
Net Income from Operations	$ 19,251	2.36	$ 35,221	3.84	$(15,970)	(45.34)
Other Revenue:						
Rental income	4,100	.50	4,100	.45	–0–	–0–
Net Income before Federal Income Tax	$ 23,351	2.86	$ 39,321	4.29	$(15,970)	(40.61)
Federal income tax	7,005	.86	11,796	1.29	(4,791)	(40.61)
Net Income	$ 16,346	2.00	$ 27,525	3.00	$(11,179)	(40.61)
Retained earnings, beginning of period	69,600		50,075		19,525	38.99
Total	$ 85,946		$ 77,600		$ 8,346	10.76
Dividends paid	8,596		8,000		596	7.45
Retained earnings, February 28	$ 77,350		$ 69,600		$ 7,750	11.14

pages 658–9 are also prepared from the books of the Marine and Industrial Supply Co. for the fiscal years ended February 28, 1961, and 1962. The details of the selling and administrative expenses are omitted in order to concentrate on the main features of the analysis. The management, however, is interested in a detailed breakdown of selling and administrative expenses because of the importance of controlling them. Salesmen, for example, are not as closely supervised, or are their activities directly observed, as are those of a factory worker. Consequently, increases in such expenses as entertainment, travel, and auto expense may only come to light when financial reports are prepared. The amounts of the retained earnings and dividends paid are not expressed as percentages of the sales, inasmuch as there is no direct relationship between these figures and the sales.

Vertical and Horizontal Analysis of the Income Statement The most important observation of the operating "profile" of the company for the two years is the decrease in the amount and the percentage of gross profit during the year, 1961–1962, i.e., from a rate of 28% to a rate of 25%. The *indicated causes* of the changes in the gross profit are explained later in the chapter.

While the amount and the percentage of the gross profit decreased during the year 1961–1962, the selling and administrative expenses also decreased. Administrative expenses decreased from 8.16% to 7.64% of net sales of each year. Apparently, the management, faced with reduced sales volume, was able to reduce the operating expenses about the same time. This is often difficult to do because many of these expenses are relatively fixed, and do not vary with sales. For example, administrative salaries, some forms of insurance premiums, and real estate taxes are not related to sales, so that when sales go down, these expenses will probably remain the same. Principally, because of the reduced rate of gross profit and the declining sales volume, the net income decreased from 3% of sales during 1960–1961 to 2% in 1961–1962.

A horizontal analysis of the statements for the two years reveals that sales decreased by 10.92%, but the cost of sales decreased by only 7.21%. These are the principal factors that tended to cause the decrease in gross profits.

Statement Relationships The relationships between various sections of the balance sheets and the income statements, and the interrelationships between the two statements are explained and illustrated by means of the following ratios. The ones illustrated are considered to be the most common, but are not the only ones used by analysts.

The Current Ratio

			February 28	
			1962	1961
Current assets		a	$116,025	$113,100
Current liabilities		b	27,300	39,150
Working capital		c	$ 88,725	$ 73,950
Ratio	(a ÷ b)	d	4.25	2.89

The current ratio (also referred to as the "working capital ratio") is the ratio of the current assets to the current liabilities. In the above illustration, the ratios may be expressed as 425% and 289%, or 4.25 times and 2.89 times, or $4.25 to $1 and $2.89 to $1, or simply 4.25 and 2.89. The working capital is the margin of the current assets over the current liabilities generally used in conducting the normal operations of the business. The current ratio expresses the number of dollars or the number of times the current liabilities could be paid as of the date of the balance sheet, if the receivables are collected and the inventory sold. In the above illustration, the Marine and Industrial Supply Co. appears to be in a more favorable position to meet its current obligations at February 28, 1962, than at February 28, 1961, by a margin of 1.36. The significance of this company's current ratio is best gauged when compared with other companies in the same industry at the same date.

The Acid-Test Ratio

			February 28	
			1962	1961
Cash			$13,650	$17,400
Accounts receivable			38,675	43,500
Total "quick" assets		a	$52,325	$60,900
Current liabilities		b	27,300	39,150
Ratio	(a ÷ b)	c	1.92	1.56

The acid-test ratio (also referred to as the "quick current ratio") is a better indicator of a company's ability to meet its current debts than the current ratio. If the cash and receivables plus any short-term investments (these assets are sometimes referred to as quick assets) are not sufficient to meet the current liabilities, the creditors must look to the sale of the inventory as a source of payment. As the inventory is two stages removed from cash in the normal operating cycle, and as losses are usually incurred in forced sales, many creditors are inclined to pay more heed to the acid-test ratio. In this illustration, the company still appears to be in a better position to meet its debts by a margin of .36 (i.e., 1.92 − 1.56).

Ratio of Sales to Accounts Receivable

			February 28	
			1962	1961
Net sales		a	$817,300	$ 917,500
Accounts receivable, beginning of year			43,500	45,000
Accounts receivable, end of year			38,675	43,500
Total		b	$ 82,175	$ 88,500
Average accounts receivable	(b ÷ 2)	c	$ 41,087	$ 44,250
Ratio	(a ÷ c)	d	19.9	20.7
Average age of the accounts receivable	(365 ÷ d)	e	18 days	17.5 days

The value of the preceding current and acid-test ratios depends largely upon the collectibility of the accounts receivable. In order to throw further light upon these ratios, the collectibility of the accounts receivable is tested, by finding the number of times the net sales exceed the average accounts receivable. By dividing the ratio into 365 days in the year, the average age of the accounts receivable can be determined. In this illustration, the *average* age of the accounts at February 28, 1962, was less than one day older than at February 28, 1961.

It is important to keep the date of the balance sheet in mind when interpreting this ratio. If the balance sheet is prepared at the end of the natural business year, and the accounts receivable are at a low point, the average age will be lower than at other times during the year. An average of the accounts receivable computed at this time would not be representative of the rest of the year. If monthly balance sheets are available, a twelve month's average of the accounts receivable would produce a more representative ratio. However, if the analyst is interested only in the trend of the company's financial condition, a ratio calculated *at any date* is useful if the calculation is made as of the *same date* for all financial statements. Reference to the terms of sale and the sales for the year may also throw some light on the condition of the accounts receivable. The discount terms offered by this company are n/10 for marine sales, and 2/10, n/30 for industrial sales. As this company expects to have its accounts collected, at the most, every 30 days, no more than 30 days sales or one-twelfth of a year's sales should be uncollected at the date of the balance sheet.

Ratio of Cost of Goods Sold to Average Inventory

			February 28	
			1962	1961
Cost of goods sold		a	$612,975	$660,600
Beginning inventory			50,025	60,075
Ending inventory			61,425	50,025
Total		b	$111,450	$110,100
Average inventory	(b ÷ 2)	c	$ 55,725	$ 55,050
Ratio	(a ÷ c)	d	11	12

The ratio of the cost of goods sold to the average inventory is usually termed an *inventory turnover.* In other words, during the year 1961–1962, the average inventory turned over 11 times compared with 12 times during 1960–1961. The number of times the inventory is sold and replaced has an important bearing on the interpretation of the working capital. The more frequently the inventory is turned over, the more liquid the working capital. The number of inventory turnovers per year varies with different lines of business from approximately 5 times for a wholesale hardware company to approximately 25 times for a wholesale meat dealer. Frequently, analysts use the net sales as a numerator when the cost of goods sold figure is not available. This distorts the turnover because the sales figures are at selling prices and include a gross profit, while the inventory figures are at cost.

A slow turnover, that is, a turnover of fewer times than other companies in the same industry are experiencing, suggests obsolete, unsaleable merchandise, leading to an over-accumulation of stock. A rapid turnover allows the management a greater opportunity to coordinate its selling prices and costs and give better service to its customers. It may be observed that, in the above illustration, the inventory in both years represents a sizeable investment in assets (i.e., 27% on February 28, 1962, and 23% on February 28, 1961). If this investment cannot be converted into cash at a reasonable profit, and within a normal time, management may find it difficult to pay bills and may be forced to liquidate the business if the condition continues too long.

Ratio of Owners' Equity to Fixed Assets

			February 28	
			1962	1961
Owners' equity		a	$191,100	$167,475
Fixed assets (less depreciation)		b	111,475	104,400
Ratio	(a ÷ b)	c	1.71	1.60

If this ratio were to be compared for several years, a trend toward over-expansion might be observed. If the ratio is consistently diminishing, it may be that the company is investing too great an amount of its capital, invested capital or borrowed capital, in fixed assets. In this example, a comparison of the ratios for only two years is not sufficient to draw a sound conclusion. As suggested above, one reason why the ratio has increased is due to the increased depreciation.

Ratio of Total Debt to Owners' Equity

			February 28	
			1962	1961
Total debt		a	$ 36,400	$ 50,025
Owners' equity		b	191,100	167,475
Ratio	(a ÷ b)	c	.19 or 19%	.30 or 30%

The ratio of the total debt to the owners' equity is also called the "debt to worth" ratio. It indicates the relative financial position of the debtors to the creditors as their respective interests appear on the balance sheet. A ratio of 1 to 1 would indicate that the creditors and the owners have an equal financial interest in the assets of the company. Such a condition might become disadvantageous to both parties, if the creditors in order to protect their interests (equity) assume some of the prerogatives of management. Usually, the creditors are not interested in becoming involved in the internal management affairs of their customers, and the owners are interested in being independent from outside control. In this illustration, the stockholders have significantly improved their position relative to that of the creditors.

Ratio of Net Income after Taxes to Net Assets:

			February 28	
			1962	1961
Net income after taxes		a	$ 16,346	$ 27,525
Net assets		b	191,100	167,475
Ratio	(a ÷ b)	c	8.6%	16.4%

This ratio is frequently referred to as the "Return on Investment," although some analysts use the total assets as a base or divisor instead of the net assets. The ratio as used here indicates the rate of annual net income earned by the stockholders or owners on their investment. In appraising the significance of this ratio, as well as the other ratios, the analyst should know what the normal rate of return is in the industry being studied. This is the first ratio in the extended illustration that appears to be unfavorable. A drop from 16.4% to 8.6% is significant. The management should make certain that a trend is not developing. The

return on investment ratio can be made clearer when restated in the following manner (the following computation is made for the year ended February 28, 1962, as taken from the statements on pages 656 and 658–659):

$$\frac{\text{NET INCOME}}{\text{SALES}} \times \frac{\text{SALES}}{\text{NET ASSETS}} = \text{RETURN ON INVESTMENT}$$

$$\frac{16{,}346}{817{,}300} \times \frac{817{,}300}{191{,}100} = \text{RETURN ON INVESTMENT}$$

$$.02 \times 4.3 = .086 \text{ or } 8.6\%$$

What factors contributed to the return of 8.6% during the year 1961–1962? It will be observed in the above equations that if the sales figures were canceled in both fractions, the resulting fraction or ratio would be in its original form, i.e.,

$$\frac{\text{NET INCOME}}{\text{NET ASSETS}}$$

In this example, the 8.6% return is attributable mainly to the relatively greater ratio of sales to total assets. In other words, the current year's sales were sufficient to support the net assets by 4.3 times or by 430% yet yielded only a small net income of 2%.

Supplementary Statement Analysis There are a variety of special purpose statements and analyses that accountants may prepare for management. Two such analyses are illustrated below using the figures from the statements on pages 656 and 658–659.

Analysis of Changes in Gross Profit The two principal causes of the change in gross profit of the Marine and Industrial Supply Co. are:

1. Changes in sales:		
1962 sales	$817,300	
1961 sales	917,500	
Decrease in sales		$100,200
2. Changes in the cost of sales:		
1962 cost of sales	$612,975	
1961 cost of sales	660,600	
Decrease in cost of sales		47,625
Decrease in gross profit		$ 52,575

In order to analyze these changes in greater detail, assume the following with respect to the Marine and Industrial Supply Co.:

1. Departmental records of sales, purchases and inventories have been kept.

2. Marine supplies are sold to make a gross profit of 30%, and industrial supplies are sold to make a gross profit of 20%.

A tabulation of the departmental sales, cost of sales, and gross profits appears on page 667.

A Statement of Source and Application of Funds What are the principal sources of working capital to a business enterprise? What is working capital used for?

The principal sources of working capital are:

1. Cash investment by the stockholders or owners.

2. The net income after taxes, to which the depreciation expense and the amortization of intangible assets has been added back. The reason why these expenses are added back is that they do not require a cash outlay from the current revenues, and therefore do not reduce the current year's working capital. For example, when a fixed asset is acquired, it is treated as a capital expenditure. If it is paid for in cash, it reduces the working capital in the year it is acquired. However, being a capital expenditure, its cost is amortized or depreciated over the years of its useful life. Each year's amortization or depreciation is an expense, but *not an expenditure.* Therefore, to restate the point, the amount of the amortization or depreciation does not reduce the current year's revenues and the working capital. In order to show how much revenues are added to the working capital after deducting the expenses that do affect the working capital (purchases of utilities, for example), the depreciation must be added back to the net income after taxes.

3. Sale of fixed assets, or any other non-current assets.

4. Long-term borrowing.

The principal uses of working capital are:

1. Repayment of a stockholder's or owner's investment; and the payment of dividends.

2. A net loss, *less* any provision for depreciation or amortization of intangible assets. The reasons for *reducing* the net loss by depreciation expense are the same as those given above for adding the depreciation back to the net income.

3. The purchase of fixed assets, or any non-current assets.

4. Repayment of a long-term loan.

A Statement of Application of Funds prepared for the Marine and Industrial Supply Co. follows, using the figures taken from the statements on pages 656 and 658–9. The sources and uses of working capital during the year 1961–1962 are to be found mainly in the "Increase-Decrease" column of the balance sheet on page 656, and from additional information in the income statement and statement of retained earnings on pages 658–9.

A MARINE AND INDUSTRIAL SUPPLY CO.

Departmental Statement of Gross Profits

For the Fiscal Years Ended February 28, 1962 and 1961

	Year Ended February 28, 1962			Year Ended February 28, 1961		
	Marine	Industrial	Total	Marine	Industrial	Total
Sales	$408,650	$408,650	$817,300	$734,000	$183,500	$917,500
Cost of goods sold	286,055	326,920	612,975	513,800	146,800	660,600
Gross profit	$122,595	$ 81,730	$204,325	$220,200	$ 36,700	$256,900
Rate of gross profit	30%	20%	25%	30%	20%	28%
Summary:						
1961 Marine sales	$734,000					
1962 Marine sales	408,650					
Decrease in Marine sales	$325,350					
Multiply the decrease by the rate of gross profit normally earned (30%), and the amount of gross profit lost is		$ 97,605				
1962 Industrial sales	$408,650					
1961 Industrial sales	183,500					
Increase in Industrial sales	$225,150					
Multiply the increase by the rate of gross profit normally earned (20%), and the amount of gross profit gained is		45,030				
Net decrease in gross profit		$ 52,575				

A MARINE AND INDUSTRIAL SUPPLY CO.

Statement of Source and Application of Funds for the Year Ended February 28, 1962

Funds provided:		
1. Sale of additional capital stock		$15,875
2. Net income after taxes	$16,346	
Add: Depreciation taken during 1961–62	10,000	26,346
3. Sale of fixed assets		–0–
4. Long-term borrowing		–0–
Total		$42,221
Funds applied:		
1. Dividend payment	$ 8,596	
2. Purchase of fixed assets	17,075	
3. Payments made on the long-term loan	1,775	27,446
Net increase in working capital		$14,775
Summarized:		
Working capital, February 28, 1962	$88,725	
Working capital, February 28, 1961	73,950	$14,775

QUESTIONS

1. Why are financial statements analyzed?
2. Mention five financial trends that may be revealed by an analysis of the financial statements of a business enterprise.
3. Is the need for financial statement analysis limited to profit-making enterprises?
4. What are some of the limitations to financial statement analysis as an aid in the management of a business?
5. What is the difference in the point of view of an investor and a supplier in the financial statements of a business enterprise?
6. Describe a balance sheet from the point of view of a statement analyst.
7. Explain three factors an analyst must consider before he can draw reasonably valid conclusions from his analysis of financial statements.
8. What is meant by the expression, "natural business year"?
9. Does a "natural business year" coincide with the normal operating cycle of a business?
10. Outline the steps to be followed in making a thorough analysis of financial statements.
11. Define the term "liquidity." Is the term liquidity more properly applicable to fixed or working capital?
12. The following figures are found in the comparative income statements of a firm for two successive years:

	1st year	2nd year	Increase (Decrease) Amount	Increase (Decrease) %
Gain (loss) sale of fixed assets	$6,000	($3,000)	?	?
Net rental income (loss)	($6,000)	$3,000	?	?

13. The following figures are taken from the balance sheets of a concern at the end of two successive years:

	1st year	2nd year	Increase (Decrease) Amount	%
Allowance for depreciation	$5,000	$4,000	?	?

Suggest reasons for the change.

14. What are the principal causes of the change in gross profits?
15. What are the causes of changes in sales? In the cost of sales?
16. How is the current ratio determined? What does it reveal? What are its limitations as a criterion of sound financial condition?
17. What are quick assets? How are they used in determining the acid test ratio?
18. How is the average age of the accounts receivable determined at the balance sheet date? Is this average indicative of the age of the receivables throughout the year?
19. How is the inventory turnover computed? What does it mean? Generally, which business would have the more rapid inventory turnover—a jewelry store or a liquor dealer? Why?
20. If the ratio of the Owners' Equity to the Fixed Assets is figured for several years, what trend may be observed?
21. If the ratio of the Total Debt to the Owners' Equity is 110%, what action should be taken by the management?
22. What two ratios multiplied by one another will produce the return on investment? Which concern would you expect would show the greater return on capital employed—General Motors or Chrysler Motors?
23. Enumerate the various factors that contribute to an increase and a decrease in the working capital of an enterprise.

PROBLEMS

Problem 28-1

The current assets and the current liabilities of the Ace Manufacturing Company for the years 1961 and 1962 appear below:

	June 30	
	1962	1961
Current assets:		
Cash	$ 22,000	$ 19,000
Accounts receivable	80,000	100,000
Inventories:		
Raw materials	12,000	30,000
Work in process	5,000	8,000
Finished goods	25,000	40,000
Prepaid expenses	4,000	3,000
	$148,000	$200,000
Current Liabilities:		
Accounts payable	$ 30,000	$ 60,000
Note payable	10,000	–0–
Loan payable	5,000	30,000
Accrued expenses	3,000	6,000
	$ 48,000	$ 96,000

Required:

(A) Prepare a vertical and horizontal analysis of the current assets and the current liabilities. Carry decimals to four places.

(B) Has the liquidity of the company improved in 1962?

Problem 28-2

The accountant for John's Men's Wear Shop prepared the following financial statements:

JOHN'S MEN'S WEAR SHOP

Balance Sheet

December 31, 19—

Assets		Liabilities and Owners' Equity	
Cash	$ 30,000	Notes payable	$ 10,000
Notes receivable	20,000	Accounts payable	50,000
Accounts receivable	130,000	Mortgage payable	75,000
Merchandise inventory	60,000	Capital stock	200,000
Delivery equipment	10,000	Retained earnings	70,000
Building	110,000		
Land	30,000		
Organization expense	1,000		
Prepaid expenses	5,000		
Investment U.S. Bonds	9,000		
	$405,000		$405,000

JOHN'S MEN'S WEAR SHOP

Statement of Income and Retained Earnings

Year Ended December 31, 19—

Gross Sales	$205,000	
Sales returns and allowances	5,000	
Net Sales		$200,000
Cost of Goods Sold		100,000
Gross Profit		$100,000
Operating Expenses:		
Sales salaries	$ 32,000	
Advertising	10,000	
Store supplies used	4,000	
Office salaries	10,000	
Office supplies used	2,000	
Depreciation and other expenses *	12,000	70,000
Net Income on operations		$ 30,000
Other Income:		
Rental income	$ 15,000	
Rental expenses	10,000	5,000
Net Income before Federal income taxes		$ 35,000
Federal income taxes		10,500
Net Income		$ 24,500
Retained earnings January 1, 19—		50,500
Total		$ 75,000
Dividends paid		5,000
Retained Earnings, December 31, 19—		$ 70,000

* Divide equally between selling and general expense.

Required:

From the foregoing statements compute the following:

(a) The current ratio.
(b) The acid-test ratio.
(c) The debt to worth ratio.
(d) The gross profit on sales percentage.
(e) The percentage of selling expenses to sales.
(f) The percentage of general expenses to sales.
(g) The percentage of net income after taxes to sales.
(h) If the merchandise inventory on January 1 was $50,000, what was the inventory turnover?
(i) The average age of the accounts receivable at December 31.

Problem 28-3

A company's working capital position is indicated by the following figures:

Current assets	$300,000
Current liabilities	150,000
Working capital	$150,000

Required:

(A) What is the current ratio?
(B) What effect would the following transactions have upon the working capital and the working capital ratio?
1. A 90-day bank loan for $50,000?
2. An investment of $50,000?
3. Payment of accounts payable of $50,000?
4. Purchase of fixed assets costing $50,000 with a payment of $10,000 and a mortgage of $40,000 due in five years for the balance?
5. A write-down of inventory by $50,000?

Problem 28-4

A wholesale dry goods merchant handles two lines of merchandise: line A is priced to sell at a gross profit of 40%; line B is priced to sell at a gross profit of 20%. There was no change in selling prices during the past two years. Gross profits earned for the past two years are tabulated as follows:

	1961	1962
Sales	$500,000	$400,000
Cost of sales	350,000	275,000
Gross profit	$150,000	$125,000

Required:

(A) Analyze the changes in gross profit in dollar amount and by percentage of change.
(B) Determine the sales and gross profit earned by each product line during 1962 and 1961.

Problem 28-5

A creamery company operates four income-producing departments housed in a single building. The following are the results of the company's operations for the current year:

	Dairy Products	Egg Candling	Poultry Packing	Cold Storage
Sales of products and storage rentals	$500,000	$300,000	$250,000	$450,000
Operating Expenses:				
Fixed (not related to the volume of sales)	$ 50,000	$ 25,000	$ 25,000	$400,000
Variable	360,000	270,000	180,000	90,000
Total Expense	$410,000	$295,000	$205,000	$490,000
Net Operating Income (Loss)	$ 90,000	$ 5,000	$ 45,000	$ (40,000)

Required:

(A) Prepare a vertical analysis of the foregoing figures based on total revenues of $1,500,000.

(B) In view of the net operating loss suffered by the cold storage department, should the company discontinue this department? Are there any alternatives?

Problem 28-6

Prepare a statement analyzing the changes in the working capital for Jay's Drug Store, a single proprietorship, whose balance sheets and supplementary information follow:

JAY'S DRUG STORE

Balance Sheets

As of June 30, 1962 and 1961

Assets	June 30, 1962	June 30, 1961	Increase (Decrease)
Current Assets			
Cash	$ 800	–0–	$ 800
Accounts receivable	1,500	$ 1,400	100
Inventory of merchandise	16,000	15,600	400
Total Current Assets	$18,300	$17,000	$ 1,300
Fixed:			
Store equipment *	$ 5,000	$ 6,000	$(1,000)
Allowance for depreciation †	4,000	5,000	(1,000)
Total Fixed Assets	$ 1,000	$ 1,000	–0–
Total Assets	$19,300	$18,000	$ 1,300
Liabilities and Owner's Equity			
Current Liabilities:			
Accounts payable	$ 4,000	$ 8,000	$(4,000)
Cash overdraft	–0–	400	(400)
Total Current Liabilities	$ 4,000	$ 8,400	$(4,400)
Jay capital account (see below)	15,300	9,600	5,700
Total Liabilities and Owner's Equity	$19,300	$18,000	$ 1,300

JAY'S DRUG STORE

Statement of Proprietor's Capital

For the Year Ended June 30, 1962

Capital account balance, July 1, 1961	$ 9,600
Additional investment, 1961–1962	2,000
Total	$ 11,600
Net income (before a provision for the proprietor's salary; but including a provision for depreciation of $500)	11,700
Total	$23,300
Proprietor's drawing account	8,000
Capital account balance, June 30, 1962	$15,300

* During the year, store fixtures costing $2,000 were sold for $500; additional fixtures were purchased costing $1,000.

† Depreciation on the fixtures sold written off during the year, $1,500.

Problem 28-7

The following trial balance was taken from the ledger of the Montpelier Company, December 31, 1962:

Cash	$ 6,000	
Accounts receivable	25,000	
Allowance for doubtful accounts		$ 700
Inventory, December 31, 1962	35,000	
Land	10,000	
Store building	40,000	
Allowance for depreciation—Store building		8,000
Store fixtures	4,000	
Allowance for depreciation—Store fixtures		1,200
Delivery equipment	3,000	
Allowance for depreciation—Delivery equipment		900
Office equipment	2,000	
Allowance for depreciation—Office equipment		500
Accounts payable		15,000
Mortgage on real estate		25,000
Capital Stock		50,000
Retained earnings, December 31, 1961		26,200
Sales		200,000
Returned sales and allowances	500	
Purchases *	170,000	
Returned purchases and allowances		1,200
Salesmen's salaries	9,000	
Advertising	5,000	
Delivery expense	2,150	
Miscellaneous selling expense	800	
Insurance	700	
Taxes	450	
Office salaries	3,500	
Office expense	2,000	
Interest expense	1,200	
Discount on sales	1,700	
Discount on purchases		1,300
Dividends paid	8,000	
	$330,000	$330,000

* After adjustment for beginning and ending inventories (beginning inventory $30,000).

Adjustments necessary to find correct profit or loss are as follows:
Deferred and accrued items:

(a) Unexpired insurance premiums, $400.
(b) Accrued interest on mortgage payable, $250.

Doubtful account allowance:

(c) An examination of the accounts receivable indicates that an allowance of $1,500 is required for doubtful accounts.

Provision for depreciation of fixed assets is made at the following annual rates, based on cost: (compute to the nearest $1.00)

(d) Store building—5% of $40,000.
(e) Store fixtures—8⅓% of $4,000.
(f) Delivery equipment—20% of $3,000.
(g) Office equipment—8⅓% of $2,000.

Required:

(A) Prepare a worksheet from the above trial balance making allowances for adjustments.
(B) Prepare a balance sheet and a statement of income and retained earnings.
(C) Analyze the working capital position of the company at December 31, 1962.

SUPPLEMENTARY PROBLEMS

Problem 28-8

The current assets and current liabilities of the Parsifal Company as of December 31, 1962 and 1961, and other data taken from the income statements for the two years, appear below:

	1962	1961
Current Assets:		
Cash	$ 22,500	$ 18,000
Accounts receivable	84,850	100,000
Inventories:		
Finished goods	24,850	42,000
Work in process	3,700	7,000
Direct material	13,050	33,000
Total Current Assets	$148,950	$200,000
Current Liabilities:		
Accounts payable	$ 29,550	$ 60,000
Note payable	20,000	—
Accrued taxes payable	1,500	2,000
Allowance for federal income taxes	6,000	6,000
Other accrued expenses	3,250	42,000
Total Current Liabilities	$ 60,300	$110,000
Data from the income statements:		
Sales	$640,200	$500,000
Cost of goods sold	407,050	400,000
Net income after taxes	24,650	20,000
Inventories January 1:		
Finished goods	32,650	38,000
Work in process	2,750	7,000
Direct material	17,400	27,000
Direct material used	160,500	210,000

Required:

1. Analyze the foregoing figures and determine:
   (a) Working capital.
   (b) Current ratio.
   (c) Acid-test ratio.
   (d) Inventory turnover of finished goods.
   (e) Percentage of net income to sales.
   (f) Turnover of direct material.
2. Has the company shown improvement as indicated from these figures? Comment briefly.

(Forms 3, 24)

Problem 28-9

The following statements were prepared for the Eloi Company:

BALANCE SHEET

	June 30	
	1962	1961
Assets		
Cash	$ 15,000	$ 7,500
Accounts receivable	30,000	40,000
Inventory	18,000	22,000
Net fixed assets (details omitted)	8,000	7,500
Total Assets	$ 71,000	$ 77,000
Liabilities and Stockholders' Equity		
Accounts payable	$ 50,000	$ 10,000
Note payable	5,000	40,000
Accrued expenses	6,000	10,000
Capital stock	3,000	3,000
Retained earnings	7,000	14,000
Total Liabilities and Stockholders' Equity	$ 71,000	$ 77,000

INCOME STATEMENT

	Fiscal Years Ended June 30	
	1962	1961
Sales	$300,000	$400,000
Cost of goods sold	255,000	320,000
Gross profit	$ 45,000	$ 80,000
Operating expenses (including depreciation of $500)	52,500	65,000
Net operating (loss) or income	$ (7,500)	$ 15,000
Gain on sale of fixed assets	500	–0–
Net income or (loss) before taxes	$ (7,000)	$ 15,000
Federal income tax	–0–	4,500
Net income or (loss)	$ (7,000)	$ 10,500
Retained earnings, July 1, 19—	14,000	3,500
Retained earnings, June 30, 19—	$ 7,000	$ 14,000

Other information:

(1) During the year an automobile costing $1,800 with accumulated depreciation of $800 was sold for $1,500.
(2) Office furniture costing $2,000 was purchased.

Required:

Prepare an analysis of the causes of the changes in the working capital.

(Form 3)

Problem 28-10

Cosmic Enterprises buys bulk chemicals from manufacturers in different quantities, receiving discounts of 20% if purchased in carload lots and 15% if purchased in less than carload lots. During a two-year period, the following net income was earned:

	Year Ended June 30	
	1962	1961
Sales	$400,000	$420,000
Cost of goods sold	326,000	344,400
Gross profit	$ 74,000	$ 75,600
Operating expenses	60,000	55,000
Net income	$ 14,000	$ 20,600

Other information:

A study of the sales for the two years reveals that 60% of the products purchased in 1961 were in carload lots; and 70% of the products purchased in 1962 were in carload lots.

Required:

(A) Prepare an analysis of the changes in gross profit and net income during 1962.
(B) Assuming that $10,000 of the operating expenses are fixed, calculate the break-even point for each of the two years.

(Form 8)

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