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# Exercise 1

## Revision

### A. NUMBER

- $32 + 26.$
- $17 + 29 + 53.$
- $177 + 88 + 239.$
- $113 + 15 + 123 + 346.$
- $76 - 34.$
- $52 - 37.$
- $273 - 136.$
- $720 - 436.$
- $72 \times 4.$
- $26 \times 8.$
- $75 \times 12.$
- $156 \times 6.$
- $7 \overline{)84}.$
- $11 \overline{)123}.$
- $5 \overline{)629}.$
- $9 \overline{)909}.$
- Find the sum of nineteen, seventy-nine, and three hundred and eight.
- Take two hundred and five from seven hundred and seventy-six.
- Find the product of one hundred and thirty-six and seven.
- How many eights are there in eight hundred and two?

### B. MONEY

- $6\frac{1}{4}d. + 4\frac{1}{2}d. + 9\frac{1}{2}d.$
- $3s. 9d. + 7s. 8d.$
- $6\frac{1}{2}d. + 3s. 4\frac{1}{4}d. + 1s. 2\frac{1}{2}d. + 5s. 2\frac{1}{2}d.$
- $\pounds 3. 5s. 4d. + 13s. 7d. + \pounds 1. 7s. 11d.$
- $10s. 0d. - 7s. 5\frac{1}{4}d.$
- $12s. 3\frac{1}{4}d. - 6s. 9\frac{1}{2}d.$
- $\pounds 3. 12s. 9d. - 14s. 10d.$
- $\pounds 5. 7s. 8d. - \pounds 1. 13s. 8\frac{1}{2}d.$
- $2s. 9d. \times 5.$
- $2s. 4\frac{1}{2}d. \times 7.$
- $\pounds 1. 3s. 5\frac{1}{2}d. \times 5.$
- $\pounds 1. 4s. 9\frac{1}{2}d. \times 8.$
- $5 \overline{)15s. 11\frac{1}{4}d}.$
- $9 \overline{)19s. 8\frac{1}{4}d}.$
- $11 \overline{)16s. 8\frac{3}{4}d}.$
- $7 \overline{)\pounds 8. 2s. 9d}.$
- Find the total of sixpence halfpenny, one shilling and threepence, and ninepence three farthings.
- Find the difference between seventeen shillings and elevenpence, and one pound and tenpence.
- Multiply thirteen shillings and fourpence halfpenny by nine.
- Share one pound one shilling and tenpence halfpenny by seven.

## Exercise 2

### Number. Reading, Writing, and Splitting-up Numbers

1. (a) How many small squares are there altogether in the picture? (b) If two more hundred squares be added, how many would there be then?

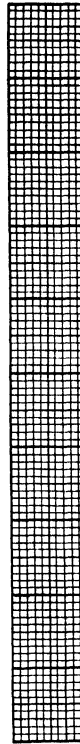
2. If three more hundred squares and four more ten-slips be added to the squares in the picture, how many squares would there be then?

3. Write in figures: (a) Seventy-seven; (b) four hundred and eleven; (c) one thousand five hundred and nineteen; (d) three thousand five hundred and thirty-six.

4. Write in figures: (a) One thousand three hundred and sixty; (b) two thousand three hundred and nine; (c) three thousand and seventy-four; (d) four thousand and fifty; (e) three thousand and thirty; (f) two thousand and ninety-six; (g) three thousand four hundred and fifty; (h) two thousand three hundred and thirty-seven.

5. Read to your friend: 3,217; 1,309; 1,057; 4,006; 2,030; 1,519; 3,273.

6. Write what each figure stands for in each of the following numbers: 2,357; 1,430; 2,057; 3,209; 1,598; 2,222. No. 1 has been done below for you.  
 $2,357 = 2,000$  (2 thousand) +  $300$  (3 hundred) +  $50$  (5 tens) +  $7$  units.



1 thousand	1 hundred	1 ten	one
(1,000)	(100)	(10)	(1)

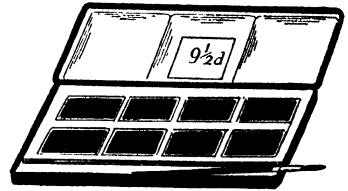
## Exercise 3

### Number (Notation). Addition

1. Read the following numbers in as many ways as you can: 271, 807, 17, 2,101, 3,356, 4,036.
2. (a) Write in figures: V, IV, VII, X, XIX, XXIII;  
(b) Write in Roman numerals: 3, 6, 8, 9, 14, 26.
3. (a) Read 5th, 1st, 3rd, 22nd, 36th; (b) write in the shortened form: fourth, ninth, twenty-first, thirty-third.
4. Read the following dates: 1066, 1314, 1415, 1600, 1870, 1900, 1938.

#### ADDITION

	(a)	(b)	(c)	(d)	(e)
5.	209 76 <u>358</u>	17 293 <u>356</u>	123 216 <u>357</u>	327 89 <u>216</u>	719 115 <u>79</u>
6.	3 17 56 <u>1,116</u>	12 23 136 <u>2,128</u>	27 19 156 <u>1,334</u>	1,257 39 536 <u>198</u>	2,117 126 239 <u>176</u>
7.	17 136 1,455 <u>1,612</u>	1,315 29 356 <u>2,154</u>	1,376 1,184 172 <u>1,236</u>	1,253 2,173 916 <u>345</u>	703 112 1,315 <u>2,106</u>

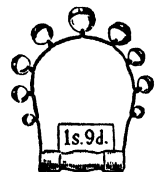


Add across:

8. (a)  $3+15+20+17$ .    (b)  $5+12+30+27$ .    (c)  $8+10+36+27$ .  
 9. (a)  $7+23+39+18$ .    (b)  $12+12+50+19$ .    (c)  $9+50+18+25$ .

Add, down and across:

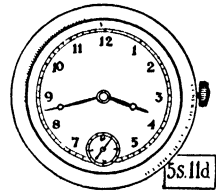
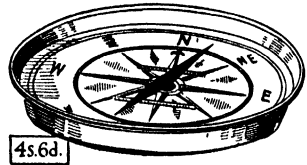
10.	(a) 17	+	(b) 23	=	14.	(a) 37	+	(b) 59	+	(c) 37	=	
11.	25	+	30	=	15.	29	+	84	+	73	=	
12.	18	+	37	=	16.	16	+	63	+	59	=	
13.	<u>26</u>	+	<u>59</u>	=	—	17.	<u>48</u>	+	<u>72</u>	+	<u>93</u>	=
	—		—		—		—		—		—	
18.	(a) 73	+	(b) 58	=	22.	(a) 23	+	(b) 34	+	(c) 52	=	
19.	11	+	76	=	23.	55	+	45	+	9	=	
20.	36	+	65	=	24.	88	+	56	+	73	=	
21.	<u>99</u>	+	<u>39</u>	=	—	25.	<u>73</u>	+	<u>67</u>	+	<u>18</u>	=
	—		—		—		—		—		—	



## Exercise 4

### Number. Subtraction

	(a)	(b)	(c)	(d)
1.	$\begin{array}{r} 98 \\ - 26 \\ \hline \end{array}$	$\begin{array}{r} 696 \\ - 235 \\ \hline \end{array}$	$\begin{array}{r} 1,958 \\ - 327 \\ \hline \end{array}$	$\begin{array}{r} 4,993 \\ - 2,341 \\ \hline \end{array}$
2.	$\begin{array}{r} 33 \\ - 7 \\ \hline \end{array}$	$\begin{array}{r} 87 \\ - 59 \\ \hline \end{array}$	$\begin{array}{r} 374 \\ - 127 \\ \hline \end{array}$	$\begin{array}{r} 2,790 \\ - 1,357 \\ \hline \end{array}$
3.	$\begin{array}{r} 314 \\ - 173 \\ \hline \end{array}$	$\begin{array}{r} 2,328 \\ - 1,196 \\ \hline \end{array}$	$\begin{array}{r} 3,518 \\ - 2,468 \\ \hline \end{array}$	$\begin{array}{r} 4,500 \\ - 2,700 \\ \hline \end{array}$
4.	$\begin{array}{r} 323 \\ - 176 \\ \hline \end{array}$	$\begin{array}{r} 3,520 \\ - 1,750 \\ \hline \end{array}$	$\begin{array}{r} 4,318 \\ - 2,626 \\ \hline \end{array}$	$\begin{array}{r} 4,723 \\ - 2,245 \\ \hline \end{array}$
5.	$\begin{array}{r} 3,111 \\ - 1,234 \\ \hline \end{array}$	$\begin{array}{r} 4,231 \\ - 1,376 \\ \hline \end{array}$	$\begin{array}{r} 4,437 \\ - 1,569 \\ \hline \end{array}$	$\begin{array}{r} 4,320 \\ - 3,177 \\ \hline \end{array}$
6.	$\begin{array}{r} 4,237 \\ - 1,964 \\ \hline \end{array}$	$\begin{array}{r} 3,700 \\ - 1,299 \\ \hline \end{array}$	$\begin{array}{r} 1,865 \\ - 999 \\ \hline \end{array}$	$\begin{array}{r} 3,075 \\ - 2,986 \\ \hline \end{array}$



### WORD SUMS

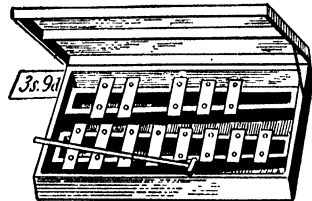
7. Subtract two thousand and eleven from three thousand four hundred and seventy.
8. Take one thousand three hundred and eighty-four from four thousand.
9. Three thousand and thirty-one minus one thousand and seventy-eight.
10. From two thousand and one take eight hundred and seventy-six.
11. Find the difference between eleven hundred and seventy-four and three thousand and twenty-six.
12. How much is one thousand and ninety-nine short of two thousand and thirty-nine?

### CHECKING ANSWERS

If the answer to a subtraction sum is correct, the sum of the answer and the bottom line (take away line) should give the top line.

Work the following subtraction sums and check your answers.

- | (a)                | (b)            |
|--------------------|----------------|
| 13. 2,000 - 73;    | 1,704 - 756.   |
| 14. 1,750 - 39;    | 1,856 - 1,375. |
| 15. 3,156 - 1,273; | 4,301 - 2,999. |
| 16. 4,000 - 9;     | 3,201 - 199.   |



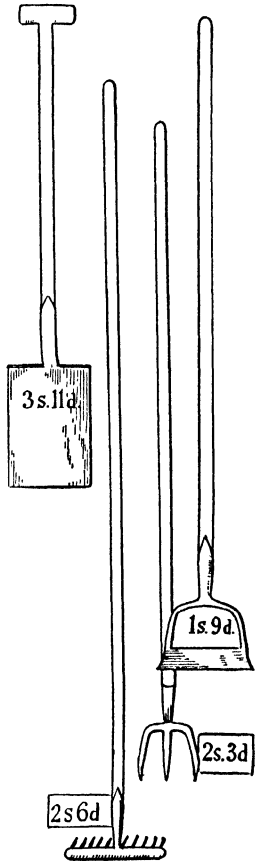
## Exercise 5

### Number. Multiplication

	(a)	(b)	(c)	(d)	(e)
1.	$\begin{array}{r} 79 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 57 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 84 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 85 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 73 \\ \times 6 \\ \hline \end{array}$
2.	$\begin{array}{r} 92 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 75 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 34 \\ \times 10 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ \times 11 \\ \hline \end{array}$
3.	$\begin{array}{r} 976 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 284 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 895 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 466 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 675 \\ \times 6 \\ \hline \end{array}$
4.	$\begin{array}{r} 293 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 442 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 453 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 369 \\ \times 11 \\ \hline \end{array}$	$\begin{array}{r} 357 \\ \times 12 \\ \hline \end{array}$
5.	$\begin{array}{r} 483 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 286 \\ \times 12 \\ \hline \end{array}$	$\begin{array}{r} 597 \\ \times 5 \\ \hline \end{array}$	$\begin{array}{r} 396 \\ \times 8 \\ \hline \end{array}$	$\begin{array}{r} 275 \\ \times 11 \\ \hline \end{array}$
6.	$\begin{array}{r} 437 \\ \times 11 \\ \hline \end{array}$	$\begin{array}{r} 395 \\ \times 12 \\ \hline \end{array}$	$\begin{array}{r} 476 \\ \times 9 \\ \hline \end{array}$	$\begin{array}{r} 387 \\ \times 7 \\ \hline \end{array}$	$\begin{array}{r} 789 \\ \times 6 \\ \hline \end{array}$
7.	$\begin{array}{r} 1,236 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 1,345 \\ \times 2 \\ \hline \end{array}$	$\begin{array}{r} 1,052 \\ \times 4 \\ \hline \end{array}$	$\begin{array}{r} 1,096 \\ \times 3 \\ \hline \end{array}$	$\begin{array}{r} 987 \\ \times 5 \\ \hline \end{array}$

### MULTIPLICATION BY 10, 20, 30, ETC.

8.	$\begin{array}{r} 53 \\ \times 10 \\ \hline \end{array}$	$\begin{array}{r} 74 \\ \times 10 \\ \hline \end{array}$	$\begin{array}{r} 97 \\ \times 20 \\ \hline \end{array}$	$\begin{array}{r} 58 \\ \times 30 \\ \hline \end{array}$	$\begin{array}{r} 67 \\ \times 40 \\ \hline \end{array}$
9.	$\begin{array}{r} 79 \\ \times 50 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ \times 60 \\ \hline \end{array}$	$\begin{array}{r} 43 \\ \times 70 \\ \hline \end{array}$	$\begin{array}{r} 36 \\ \times 80 \\ \hline \end{array}$	$\begin{array}{r} 27 \\ \times 90 \\ \hline \end{array}$
10.	$\begin{array}{r} 350 \\ \times 10 \\ \hline \end{array}$	$\begin{array}{r} 270 \\ \times 10 \\ \hline \end{array}$	$\begin{array}{r} 126 \\ \times 20 \\ \hline \end{array}$	$\begin{array}{r} 119 \\ \times 30 \\ \hline \end{array}$	$\begin{array}{r} 117 \\ \times 40 \\ \hline \end{array}$

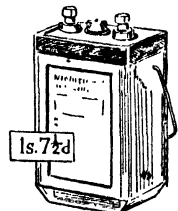
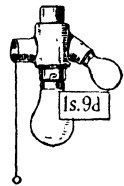
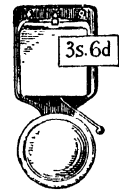
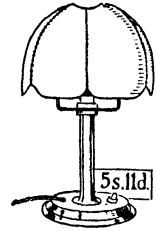


11. How many shillings are there in £2, £3, £4, £5, £10, £8, £9 (twenties)?
12. How many hundredweights (cwt.) are there in 7 tons, 9 tons, 5 tons, 10 tons (twenties)?
13. How many minutes are there in 2 hours, 5 hours, 12 hours, 17 hours, 21 hours (sixties)?
14. How many pence are there in 3 half-crowns, 7 half-crowns, 12 half-crowns, 19 half-crowns (thirties)?
15. How many florins are there in £4, £7, £9, £6, £8, £10 (tens)?
16. Find the product of three hundred and seventy-nine and twelve.
17. What are nine times five hundred and nine?
18. Multiply two hundred and twelve by nine.
19. Find twenty times one hundred and seventy-nine.
20. Find the product of thirty-three and ninety.

## Exercise 6

### Number. Long Multiplication

	(a)	(b)	(c)	(d)	(e)
1.	$\begin{array}{r} 57 \\ \times 14 \\ \hline \end{array}$	$\begin{array}{r} 39 \\ \times 15 \\ \hline \end{array}$	$\begin{array}{r} 42 \\ \times 16 \\ \hline \end{array}$	$\begin{array}{r} 53 \\ \times 17 \\ \hline \end{array}$	$\begin{array}{r} 65 \\ \times 18 \\ \hline \end{array}$
2.	$\begin{array}{r} 75 \\ \times 21 \\ \hline \end{array}$	$\begin{array}{r} 38 \\ \times 22 \\ \hline \end{array}$	$\begin{array}{r} 45 \\ \times 23 \\ \hline \end{array}$	$\begin{array}{r} 54 \\ \times 24 \\ \hline \end{array}$	$\begin{array}{r} 66 \\ \times 25 \\ \hline \end{array}$
3.	$\begin{array}{r} 76 \\ \times 26 \\ \hline \end{array}$	$\begin{array}{r} 82 \\ \times 27 \\ \hline \end{array}$	$\begin{array}{r} 85 \\ \times 28 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ \times 29 \\ \hline \end{array}$	$\begin{array}{r} 91 \\ \times 31 \\ \hline \end{array}$
4.	$\begin{array}{r} 93 \\ \times 32 \\ \hline \end{array}$	$\begin{array}{r} 95 \\ \times 33 \\ \hline \end{array}$	$\begin{array}{r} 86 \\ \times 34 \\ \hline \end{array}$	$\begin{array}{r} 78 \\ \times 35 \\ \hline \end{array}$	$\begin{array}{r} 69 \\ \times 36 \\ \hline \end{array}$
5.	$\begin{array}{r} 65 \\ \times 73 \\ \hline \end{array}$	$\begin{array}{r} 89 \\ \times 45 \\ \hline \end{array}$	$\begin{array}{r} 96 \\ \times 29 \\ \hline \end{array}$	$\begin{array}{r} 83 \\ \times 37 \\ \hline \end{array}$	$\begin{array}{r} 49 \\ \times 49 \\ \hline \end{array}$
6.	$\begin{array}{r} 123 \\ \times 15 \\ \hline \end{array}$	$\begin{array}{r} 216 \\ \times 18 \\ \hline \end{array}$	$\begin{array}{r} 221 \\ \times 17 \\ \hline \end{array}$	$\begin{array}{r} 156 \\ \times 19 \\ \hline \end{array}$	$\begin{array}{r} 227 \\ \times 16 \\ \hline \end{array}$
7.	$\begin{array}{r} 112 \\ \times 27 \\ \hline \end{array}$	$\begin{array}{r} 126 \\ \times 29 \\ \hline \end{array}$	$\begin{array}{r} 109 \\ \times 36 \\ \hline \end{array}$	$\begin{array}{r} 107 \\ \times 41 \\ \hline \end{array}$	$\begin{array}{r} 109 \\ \times 43 \\ \hline \end{array}$
8.	$\begin{array}{r} 125 \\ \times 37 \\ \hline \end{array}$	$\begin{array}{r} 106 \\ \times 43 \\ \hline \end{array}$	$\begin{array}{r} 117 \\ \times 29 \\ \hline \end{array}$	$\begin{array}{r} 215 \\ \times 18 \\ \hline \end{array}$	$\begin{array}{r} 275 \\ \times 16 \\ \hline \end{array}$



9. How many ounces in 39 lb.; 73 lb.; 89 lb.; 55 lb.; 80 lb.?
10. How many hours in 23 days; 32 days; 75 days; 96 days; 83 days?
11. Change to shillings: 72 guineas, 112 guineas, 223 guineas, 94 guineas.
12. Change to inches: 15 yards; 27 yards; 38 yards; 112 yards.
13. How many are there in 29 gross; 23 gross; 28 gross; 19 gross?
14. Find the product of one hundred and thirty-seven and nineteen.
15. Multiply two hundred and eight by twenty-one.
16. Find the number which is thirty times thirty-seven.
17. How far will a motor travel in 17 hours at the rate of 35 miles per hour?

Write answers only in the next three sums:

18. (a)  $3 \times 4 \times 5 \times 6$ ; (b)  $2 \times 5 \times 8 \times 7$ .
19. (a)  $4 \times 10 \times 3 \times 2$ ; (b)  $4 \times 5 \times 6 \times 7$ .
20. (a)  $7 \times 8 \times 2 \times 10$ ; (b)  $5 \times 2 \times 30 \times 3$ .

## Exercise 7

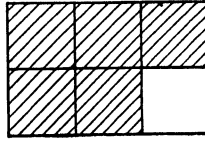
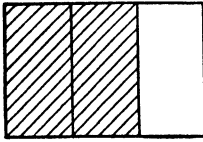
### Number. Division

	(a)	(b)	(c)	(d)	(e)
1.	9 $\overline{)327}$	10 $\overline{)450}$	8 $\overline{)329}$	5 $\overline{)575}$	7 $\overline{)352}$
2.	3 $\overline{)365}$	7 $\overline{)776}$	3 $\overline{)157}$	4 $\overline{)361}$	8 $\overline{)721}$
3.	4 $\overline{)109}$	9 $\overline{)909}$	8 $\overline{)927}$	7 $\overline{)856}$	6 $\overline{)731}$
4.	9 $\overline{)1,089}$	12 $\overline{)2,536}$	11 $\overline{)2,446}$	9 $\overline{)3,099}$	5 $\overline{)2,260}$
5.	6 $\overline{)3,172}$	5 $\overline{)2,800}$	7 $\overline{)3,256}$	8 $\overline{)4,089}$	12 $\overline{)3,472}$
6.	5 $\overline{)4,321}$	3 $\overline{)1,440}$	4 $\overline{)3,126}$	11 $\overline{)3,046}$	12 $\overline{)3,672}$
7.	2 $\overline{)2,436}$	3 $\overline{)3,476}$	4 $\overline{)4,816}$	3 $\overline{)4,440}$	2 $\overline{)3,758}$
8.	3 $\overline{)3,617}$	4 $\overline{)4,937}$	3 $\overline{)4,516}$	2 $\overline{)3,718}$	4 $\overline{)5,000}$
9.	10 $\overline{)70}$	10 $\overline{)80}$	10 $\overline{)90}$	10 $\overline{)100}$	10 $\overline{)120}$
10.	10 $\overline{)700}$	10 $\overline{)1,000}$	10 $\overline{)3,000}$	10 $\overline{)4,000}$	10 $\overline{)5,000}$
11.	10 $\overline{)691}$	10 $\overline{)734}$	10 $\overline{)956}$	10 $\overline{)1,329}$	10 $\overline{)2,731}$
12.	20 $\overline{)40}$	20 $\overline{)420}$	20 $\overline{)735}$	20 $\overline{)845}$	20 $\overline{)1,475}$
13.	30 $\overline{)690}$	30 $\overline{)1,024}$	30 $\overline{)2,164}$	30 $\overline{)4,731}$	40 $\overline{)3,156}$
14.	60 $\overline{)3,660}$	50 $\overline{)4,560}$	40 $\overline{)4,891}$	50 $\overline{)4,061}$	30 $\overline{)4,281}$

- Find  $\frac{1}{2}$  of: 38; 372; 3,714; 44; 454; 4,554.
- Find  $\frac{1}{4}$  of: 96; 980; 3,520; 4,504; 3,000; 5,000.
- Find  $\frac{1}{8}$  of: 104; 1,024; 1,336; 4,216; 4,992; 5,000.
- Change to £. s.: 80s.; 120s.; 126s.; 347s.; 495s.; 900s. (twenties).
- Change to hours: 120 minutes, 240 minutes, 360 minutes, 480 minutes (sixties).
- Change to tons and cwt.: 25 cwt., 37 cwt., 47 cwt., 119 cwt., 175 cwt. (twenties).
- Divide three hundred and seventy-five by twelve.
- How many nines are there in one thousand and eight?
- Share 1,350 marbles amongst 16 boys and 14 girls. How many for each?
- Divide one thousand three hundred and eighty by sixty.

## Exercise 8

### Thirds and Sixths



WHOLE					
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$			
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

1. Into how many equal parts has the first oblong been divided? What is each part called? How many of these parts make a whole?
2. What part of the first oblong has been shaded? If I cut away the shaded part, what part is left?  $1 - \frac{2}{3} = ?$ .
3. Draw an oblong 4 inches by 3 inches. Draw lines to show how many square inches there are in the oblong.
  - (a) Shade  $\frac{1}{3}$  blue.  $\frac{1}{3}$  of 12 square inches = ? square inches.
  - (b) Shade  $\frac{2}{3}$  red.  $\frac{2}{3}$  of 12 square inches = ? square inches.
4. (a)  $\frac{1}{3}$  of 12s. = ?; (b)  $\frac{1}{3}$  of 1 yard = ?; (c)  $\frac{1}{3}$  of £1 = ?; (d)  $\frac{1}{3}$  of 1 hour = ?.
5. (a)  $\frac{2}{3}$  of 9s. = ?; (b)  $\frac{2}{3}$  of 1 foot = ?; (c)  $\frac{2}{3}$  of 1 guinea = ?; (d)  $\frac{2}{3}$  of 24 hours = ?.
6. Now look at the second oblong above. What is each part called? How many of these parts make a whole? What part has been shaded? What part is left?  $1 - \frac{5}{6} = ?$ .
7. If I cut away the unshaded part, what part is left?  $1 - \frac{1}{6} = ?$ .
8. (a)  $1 - \frac{4}{6} = ?$ ; (b)  $1 - \frac{3}{6} = ?$ ; (c)  $1 - \frac{2}{6} = ?$ ; (d)  $\frac{1}{6} + \frac{2}{6} = ?$ ;  $\frac{3}{6} + \frac{2}{6} = ?$ .
9. Fill in the missing figures after looking at picture three (third oblong) above.
  - (a)  $\frac{2}{6} = \frac{?}{3}$ ; (b)  $\frac{4}{6} = \frac{?}{3}$ ; (c)  $\frac{3}{6} = \frac{?}{6}$ .
10. Show, by a drawing, the number of square inches in an oblong 4 inches long and 3 inches wide. Shade  $\frac{1}{6}$  red;  $\frac{1}{2}$  blue; and  $\frac{1}{3}$  yellow.
11. (a)  $\frac{1}{6}$  of 12 square inches; (b)  $\frac{2}{3}$  of 12 square inches; (c)  $\frac{5}{6}$  of 12 square inches.
12. (a)  $\frac{1}{6}$  of £1 = ?; (b)  $\frac{1}{6}$  of 1 yard = ?; (c)  $\frac{5}{6}$  of 1 hour = ?; (d)  $\frac{5}{6}$  of 24 hours = ?.
13. (a)  $\frac{1}{6} + \frac{2}{6} = ?$ ; (b)  $\frac{1}{3} + \frac{1}{6} = ?$ ; (c)  $\frac{1}{2} + \frac{1}{6} = ?$ ; (d)  $\frac{2}{3} + \frac{1}{6} = ?$ .
14. (a)  $\frac{2}{3} - \frac{1}{3} = ?$ ; (b)  $\frac{5}{6} - \frac{1}{6} = ?$ ; (c)  $\frac{1}{2} - \frac{1}{3} = ?$ ; (d)  $\frac{2}{3} - \frac{1}{6} = ?$ .
15. (a)  $\frac{1}{4}$  of 1 guinea = ?; (b)  $\frac{3}{8}$  of £1 = ?; (c)  $\frac{3}{4}$  of 1 hour = ?.

## Exercise 9

### Revision

1. (a)  $4,005 - 2,329$ ; (b)  $\pounds 5. 0s. 0d. - \pounds 2. 17s. 10d.$ ;  $\pounds 1. 5s. \div 3$ .
2. Divide 3,750 by (a) 3; (b) 5; (c) 9; (d) 12; (e) 20; (f) 60.
3. Multiply 127 by (a) 4; (b) 6; (c) 8; (d) 15; (e) 21.
4. Find (a)  $\frac{1}{3}$ ; (b)  $\frac{2}{3}$ ; (c)  $\frac{1}{4}$ ; (d)  $\frac{3}{4}$  of 1,260.
5.  $\pounds 1. 12s. 3\frac{1}{2}d. + 17s. 9d. + \pounds 1. 11s. 4\frac{1}{2}d. + 19s. 8d.$
6. Multiply  $7s. 9d.$  by (a) 3; (b) 7; (c) 9; (d) 12.
7. Divide  $\pounds 5. 0s. 0d.$  by (a) 4; (b) 6; (c) 8; (d) 12.
8. Find (a)  $\frac{1}{8}$ ; (b)  $\frac{3}{8}$ ; (c)  $\frac{1}{6}$ ; (d)  $\frac{5}{6}$  of  $\pounds 4. 16s.$
9. (a) 18 gross — 18 dozen; (b) 3 guineas — 12 half-crowns.
10. (a) 184 articles at  $1\frac{1}{2}d.$  each; (b) 100 articles at 10 for  $3d.$
11. (a)  $1\frac{1}{2}$  lb. of bacon at  $1s. 3d.$  a lb. +  $1\frac{1}{4}$  lb. of butter at  $1s. 6d.$  a lb.; change from  $5s. = ?$ .
12. (a)  $5\frac{1}{2}$  lb. —  $3\frac{3}{4}$  lb.; (b) 720 inches = ? feet; = ? yards.
13. (a)  $\frac{1}{6} + \frac{5}{6}$ ; (b)  $\frac{1}{4} + \frac{1}{2}$ ; (c)  $\frac{1}{3} + \frac{1}{6}$ ; (d)  $\frac{1}{2} - \frac{1}{3}$ ; (e)  $\frac{3}{4} - \frac{5}{8}$ .

- 
14. Find the difference between  $\pounds 1. 13s. 9d.$  and 29 sixpences.
  15.  $\frac{1}{8}$  of a sum of money is  $1s. 11\frac{1}{2}d.$  What is the sum of money?
  16. The distance all round a square is 52 inches. How long is each side in feet and inches.
  17. The milkman has 320 customers who each take 1 pint of milk. How many gallons will he need to serve them?
  18. The bus started on its journey at 2.45 and finished at 3.25. How many minutes did it take?
  19. Draw a rectangle 5 inches by 3 inches. How many square inches are there in it? Now draw a rectangle twice as big and say how many square inches there are in it.
  20. Change (a) to pence,  $3s. 5d.$ ; (b) to pence, 33 farthings; (c) to  $\pounds. s., 151$  shillings.
  21. (a)  $\frac{2}{3}$  of 1 hour = ?; (b)  $\frac{5}{6}$  of 30s. = ?; (c)  $\frac{5}{8}$  of 1 lb. = ?.

## Exercise 10

### Easy Reduction

Change to pence:

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1.	11	19	13	17	15	23	18 halfpence.
2.	22	29	31	42	46	37	48 farthings.

Change to *s. d.*:

3.	17	39	18	74	52	96	100 pence.
4.	83	75	29	110	133	78	127 pence.
5.	159	175	199	187	231	227	235 pence.
6.	27	39	25	28	33	37	31 sixpences.
7.	51	63	57	72	49	55	79 threepences.

Change to £. *s.*:

8.	45	53	77	97	126	157	118 shillings.
9.	57	49	89	77	139	176	195 shillings.

Reduce to ounces:

10.	1 lb. 11 oz.	2 lb. 9 oz.	3 lb. 10 oz.	4 lb. 6 oz.	5 lb. 11 oz.	6 lb. 3 oz.
11.	4 lb. 9 oz.	3 lb. 2 oz.	4 lb. 11 oz.	5 lb. 13 oz.	16 lb.	21 lb. 3 oz.
12.	3½ lb.	4½ lb.	7¾ lb.	12½ lb.	19¼ lb.	9 lb. 7 oz.

Change:

	(a)	(b)	(c)	(d)	(e)
13. to quarts:	7 gall.	12 gall.	19 gall.	18 gall.	32½ gall.
14. to pints:	9 gall.	17 gall.	5½ gall.	7¼ gall.	6¾ gall.
15. to quarts:	22 pints	142 pt.	270 pt.	121 pt.	137 pt.
16. to gall.:	44 quarts	115 qt.	172 qt.	320 qt.	256 qt.
17. to gall.:	160 pints	172 pt.	218 pt.	320 pt.	117 pt.

Change:

18. to pence:	1 <i>s.</i> 11 <i>d.</i>	2 <i>s.</i> 9 <i>d.</i>	11 <i>s.</i> 6 <i>d.</i>	5 <i>s.</i> 9 <i>d.</i>	10 <i>s.</i> 9 <i>d.</i>
19. to shillings:	£1. 5 <i>s.</i>	£2. 7 <i>s.</i>	£3. 15 <i>s.</i>	£4. 19 <i>s.</i>	£7. 11 <i>s.</i>

## Exercise 11

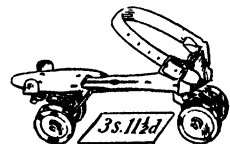
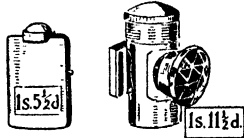
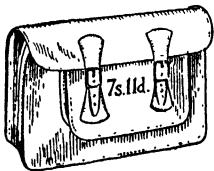
### Money. Addition and Subtraction

#### A. ADDITION

	(a)	(b)	(c)	(d)	(e)
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1.	$\begin{array}{r} 19\ 6 \\ 3\ 9 \\ \hline 8\ 11 \end{array}$	$\begin{array}{r} 13\ 10 \\ 14\ 6 \\ \hline 15\ 9 \end{array}$	$\begin{array}{r} 15\ 5\frac{1}{2} \\ 3\ 7\frac{1}{2} \\ \hline 2\ 9 \end{array}$	$\begin{array}{r} 12\ 5\frac{1}{4} \\ 3\ 9\frac{1}{4} \\ \hline 13\ 2\frac{1}{4} \end{array}$	$\begin{array}{r} 17\ 4\frac{1}{2} \\ 18\ 5\frac{1}{2} \\ \hline 19\ 5\frac{1}{2} \end{array}$
2.	$\begin{array}{r} 1\ 12\ 3 \\ 3\ 9 \\ \hline 14\ 6 \end{array}$	$\begin{array}{r} 2\ 11\ 5 \\ 8\ 9 \\ \hline 15\ 7 \end{array}$	$\begin{array}{r} 1\ 15\ 11 \\ 15\ 9 \\ \hline 14\ 10\frac{1}{2} \end{array}$	$\begin{array}{r} 13\ 5\frac{1}{4} \\ 12\ 7\frac{3}{4} \\ \hline 19\ 6\frac{1}{2} \end{array}$	$\begin{array}{r} 14\ 7\frac{3}{4} \\ 13\ 8\frac{3}{4} \\ \hline 16\ 9\frac{3}{4} \end{array}$
3.	$\begin{array}{r} 2\ 3\ 6 \\ 4\ 17\ 11 \\ 9\ 10 \\ \hline 3\ 8\ 6 \end{array}$	$\begin{array}{r} 4\ 12\ 4 \\ 7\ 3\ 6 \\ 1\ 16\ 9 \\ \hline 1\ 12\ 3 \end{array}$	$\begin{array}{r} 17\ 8\ 9 \\ 1\ 3\ 11\frac{1}{2} \\ 17\ 8\frac{1}{2} \\ \hline 11\ 9 \end{array}$	$\begin{array}{r} 24\ 2\ 7 \\ 13\ 8\frac{1}{4} \\ 15\ 9 \\ \hline 2\ 11\ 7\frac{1}{4} \end{array}$	$\begin{array}{r} 1\ 18\ 6\frac{1}{2} \\ 14\ 9\frac{1}{2} \\ 15\ 7\frac{1}{2} \\ \hline 13\ 11\frac{1}{2} \end{array}$
4.	$\begin{array}{r} 19\ 12\ 6 \\ 11\ 17\ 9 \\ 1\ 18\ 6 \\ \hline 1\ 13\ 4 \end{array}$	$\begin{array}{r} 21\ 13\ 9 \\ 19\ 11\ 6 \\ 2\ 13\ 11 \\ \hline 1\ 17\ 8 \end{array}$	$\begin{array}{r} 12\ 18\ 7\frac{1}{2} \\ 13\ 15\ 1\frac{1}{2} \\ 9\ 17\ 6\frac{1}{4} \\ \hline 3\ 11\ 8\frac{3}{4} \end{array}$	$\begin{array}{r} 27\ 5\ 6\frac{1}{2} \\ 8\ 7\ 4\frac{1}{4} \\ 11\ 17\ 7\frac{3}{4} \\ \hline 6\ 11\ 8\frac{3}{4} \end{array}$	$\begin{array}{r} 7\ 9\ 5\frac{1}{2} \\ 12\ 19\ 8\frac{1}{4} \\ 6\ 13\ 5\frac{1}{2} \\ \hline 23\ 17\ 8\frac{3}{4} \end{array}$

#### B. SUBTRACTION

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
5.	$\begin{array}{r} 13\ 15\ 9 \\ 12\ 13\ 8 \\ \hline \end{array}$	$\begin{array}{r} 15\ 17\ 4 \\ 11\ 9\ 9 \\ \hline \end{array}$	$\begin{array}{r} 21\ 19\ 8 \\ 16\ 12\ 11 \\ \hline \end{array}$	$\begin{array}{r} 17\ 11\ 10 \\ 14\ 15\ 8 \\ \hline \end{array}$	$\begin{array}{r} 15\ 9\ 11 \\ 11\ 13\ 7 \\ \hline \end{array}$
6.	$\begin{array}{r} 12\ 7\ 5 \\ 9\ 13\ 8 \\ \hline \end{array}$	$\begin{array}{r} 22\ 6\ 9 \\ 18\ 14\ 10 \\ \hline \end{array}$	$\begin{array}{r} 33\ 8\ 10 \\ 29\ 19\ 11 \\ \hline \end{array}$	$\begin{array}{r} 42\ 9\ 7 \\ 33\ 18\ 8 \\ \hline \end{array}$	$\begin{array}{r} 17\ 8\frac{1}{2} \\ 3\ 9\frac{3}{4} \\ \hline \end{array}$
7.	$\begin{array}{r} 32\ 17\ 6 \\ 25\ 18\ 9 \\ \hline \end{array}$	$\begin{array}{r} 42\ 15\ 5 \\ 37\ 16\ 8 \\ \hline \end{array}$	$\begin{array}{r} 31\ 17\ 3 \\ 24\ 18\ 7 \\ \hline \end{array}$	$\begin{array}{r} 47\ 13\ 9 \\ 42\ 18\ 11 \\ \hline \end{array}$	$\begin{array}{r} 1\ 17\ 7\frac{1}{4} \\ 19\ 8\frac{1}{2} \\ \hline \end{array}$
8.	$\begin{array}{r} 27\ 13\ 5 \\ 9\ 14\ 6 \\ \hline \end{array}$	$\begin{array}{r} 32\ 17\ 3 \\ 9\ 19\ 5 \\ \hline \end{array}$	$\begin{array}{r} 43\ 18\ 1 \\ 7\ 19\ 11 \\ \hline \end{array}$	$\begin{array}{r} 48\ 12\ 3 \\ 8\ 13\ 4 \\ \hline \end{array}$	$\begin{array}{r} 1\ 13\ 5\frac{1}{2} \\ 17\ 6\frac{3}{4} \\ \hline \end{array}$
9.	$\begin{array}{r} 38\ 4\ 9 \\ 19\ 5\ 10 \\ \hline \end{array}$	$\begin{array}{r} 41\ 13\ 9 \\ 27\ 14\ 8 \\ \hline \end{array}$	$\begin{array}{r} 40\ 0\ 0 \\ 17\ 13\ 9 \\ \hline \end{array}$	$\begin{array}{r} 42\ 13\ 7 \\ 18\ 14\ 10 \\ \hline \end{array}$	$\begin{array}{r} 5\ 12\ 3\frac{1}{2} \\ 1\ 13\ 4\frac{1}{2} \\ \hline \end{array}$



## Exercise 12

### Money. Multiplication and Division

#### A. MULTIPLICATION

	(a)	(b)	(c)	(d)	(e)
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1.	$\begin{array}{r} \text{£ } 6 \text{ } 4 \\ \times \quad 11 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 7 \text{ } 6 \\ \times \quad 12 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 9 \text{ } 4 \\ \times \quad 8 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 15 \text{ } 3 \\ \times \quad 9 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 10 \text{ } 7\frac{1}{2} \\ \times \quad 5 \\ \hline \end{array}$
2.	$\begin{array}{r} \text{£ } 7 \text{ } 2\frac{1}{2} \\ \times \quad 8 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 17 \text{ } 5\frac{1}{2} \\ \times \quad 9 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 19 \text{ } 3\frac{1}{4} \\ \times \quad 10 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 15 \text{ } 4\frac{3}{4} \\ \times \quad 7 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 13 \text{ } 4\frac{1}{2} \\ \times \quad 9 \\ \hline \end{array}$
3.	$\begin{array}{r} \text{£ } 1 \text{ } 3 \text{ } 4 \\ \times \quad 4 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 1 \text{ } 5 \text{ } 6\frac{1}{2} \\ \times \quad 3 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 1 \text{ } 2 \text{ } 2\frac{1}{2} \\ \times \quad 9 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 1 \text{ } 3 \text{ } 5\frac{1}{4} \\ \times \quad 5 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 2 \text{ } 7 \text{ } 7 \\ \times \quad 6 \\ \hline \end{array}$
4.	$\begin{array}{r} \text{£ } 8 \text{ } 3 \text{ } 3\frac{1}{2} \\ \times \quad 6 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 7 \text{ } 2 \text{ } 1\frac{1}{2} \\ \times \quad 7 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 4 \text{ } 3 \text{ } 6 \\ \times \quad 12 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 10 \text{ } 7\frac{1}{2} \\ \times \quad 11 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 17 \text{ } 11\frac{1}{2} \\ \times \quad 8 \\ \hline \end{array}$
5.	$\begin{array}{r} \text{£ } 1 \text{ } 3 \text{ } 7 \\ \times \quad 8 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 2 \text{ } 2 \text{ } 9 \\ \times \quad 9 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 3 \text{ } 3 \text{ } 7 \\ \times \quad 6 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 1 \text{ } 3 \text{ } 9 \\ \times \quad 12 \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 19 \text{ } 4\frac{1}{2} \\ \times \quad 12 \\ \hline \end{array}$

#### B. DIVISION

6. $2 \overline{) 8 \text{ } 12 \text{ } 6}$	3. $3 \overline{) 18 \text{ } 5 \text{ } 0}$	4. $4 \overline{) 12 \text{ } 17 \text{ } 4}$	5. $5 \overline{) 10 \text{ } 16 \text{ } 3}$	10. $10 \overline{) 15 \text{ } 5}$
7. $6 \overline{) 1 \text{ } 17 \text{ } 0}$	7. $7 \overline{) 1 \text{ } 16 \text{ } 2}$	8. $8 \overline{) 9 \text{ } 6 \text{ } 0}$	9. $9 \overline{) 19 \text{ } 10 \text{ } 9}$	9. $9 \overline{) 14 \text{ } 5\frac{1}{2}}$
8. $6 \overline{) 8 \text{ } 0 \text{ } 0}$	7. $7 \overline{) 9 \text{ } 2 \text{ } 7}$	8. $8 \overline{) 11 \text{ } 6 \text{ } 8}$	9. $9 \overline{) 31 \text{ } 1 \text{ } 9}$	11. $11 \overline{) 1 \text{ } 10 \text{ } 8\frac{1}{2}}$
9. $9 \overline{) 1 \text{ } 4 \text{ } 2\frac{1}{2}}$	10. $10 \overline{) 1 \text{ } 4 \text{ } 7}$	7. $7 \overline{) 1 \text{ } 1 \text{ } 8\frac{3}{4}}$	5. $5 \overline{) 1 \text{ } 3 \text{ } 6\frac{1}{2}}$	11. $11 \overline{) 1 \text{ } 4 \text{ } 0\frac{3}{4}}$
10. $9 \overline{) 49 \text{ } 5 \text{ } 6}$	8. $8 \overline{) 35 \text{ } 15 \text{ } 4}$	9. $9 \overline{) 21 \text{ } 4 \text{ } 6}$	7. $7 \overline{) 44 \text{ } 4 \text{ } 4}$	8. $8 \overline{) 43 \text{ } 10 \text{ } 8}$

#### C. MISCELLANEOUS

11. Find the sum of £12. 3s. 7½d., 5 guineas, and three £5 notes.
12. What is the difference between £40. 3s. 7d. and £20. 2s. 9d.?
13. Find the product of £1. 2s. 6d. and 9.
14. Divide £11. 4s. 7d. by 10.
15. Find the sum of three £10 notes, seven 10s. notes, and 6 half-crowns.
16. After spending £1. 12s. 6d. and £2. 13s. 9d., I had 7 guineas left. How much had I at first?
17. How much short of £40 is the sum of £10. 13s. 7d. and £15. 12s. 9½d.?
18. Share £43. 15s. 4d. equally among 5 men and 3 women. How much for each person?

## Exercise 13

### Length and Scale. Practical Work

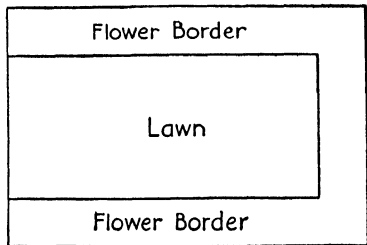
1. Draw a line as long as the sum of lines AB and CD.

A ————— B      C ————— D

2. Measure the length and width of your teacher's table in feet and inches. Find the difference between the length and the width. How far is it all round the table?
3. My table at home is 4 feet 6 inches long and 2 feet 9 inches wide. What is the difference between the length and the width? How far is it all round?
4. Change to inches: (a) 1 ft. 9 in.; (b) 3 ft. 5 in.; (c) 4 ft. 9 in.; (d) 5 ft. 7 in.; (e) 7 ft. 11 in.; (f) 10 ft. 5 in.; (g) 12 ft. 9 in.
5. Change to feet and inches: (a) 25 in.; (b) 39 in.; (c) 57 in.; (d) 64 in.; (e) 79 in.; (f) 87 in.; (g) 119 in.
6. Change first to feet, and then to inches: (a) 3 yd.; (b) 3 yd. 1 ft.; (c) 4 yd. 2 ft.; (d) 6 yd.; (e) 7 yd. 1 ft.; (f) 8 yd. 2 ft.
7. (a) How tall are you in feet and inches? (b) in inches? (c) Who is the taller, you or your friend? By how many inches?
8. (a) John is 3 ft. 11 in. tall. How many inches is that? (b) Tom is 4 ft. 1½ in. tall. How many inches is that? (c) How much taller is Tom than John?
9. If  $\frac{1}{4}$  inch stands for 1 mile, find the length represented by the line AB.

A ————— B

10. The drawing shows a garden. If  $\frac{1}{8}$  of an inch stands for 1 yard, find (a) the length of the garden; (b) the width of the garden. (c) How far is it all round the garden? Give answer (c) in feet.



11. How many feet is it all round the lawn?
12. How wide (a) in yards; (b) in feet, is the flower border?
13. How far across is a halfpenny? A straight line of halfpennies touching one another totals 3 shillings. How long is the line (a) in feet? (b) in yards?

14. If line AB stands for 1 yard, what length will line CD stand for?

A ————— B

C ————— D

15. On a certain map, 1 inch stands for 25 miles. How many miles are represented by (a)  $\frac{1}{4}$  inch; (b)  $1\frac{1}{2}$  inches; (c)  $2\frac{3}{4}$  inches?

## Exercise 14

### Money. Revision

1. Add: 13s. 8½*d.*, 17s. 9¾*d.*, 15s. 11½*d.*, and 18s. 7¾*d.*
2. Add: £3. 18s. 3*d.*, £4. 19s. 8*d.*, £7. 13s. 4*d.*, and £11. 18s. 5*d.*
3. (a) Take 13s. 8½*d.* from 19s. 7¼*d.*; (b) 121*d.* = ?
4. Take £18. 17s. 10*d.* from £40. 0s. 0½*d.*
5. (a) £1. 2s. 9*d.* × 11; (b) 7 chairs at 14s. 11½*d.* each = ?
6. (a) £13. 14s. 0*d.* ÷ 12; (b) one-ninth of £31. 5s. 6*d.*
7. 23 halfpennies + 27 pennies + 24 threehalfpence = ?
8. 7 articles at 1s. 11½*d.* each + 8 articles at 2s. 5½*d.* each = ?
9. 1½ lb. of bacon at 1s. 11*d.* a lb. + 2¾ lb. of butter at 1s. 6*d.* a lb. Change out of £1 = ?
10. 39 pennies + 5 threepences + 4 half-crowns + five 10s. notes + three £1 notes = ?
11. Buy 9 rugs at 17s. 11½*d.* Change out of two £5 notes = ?
12. (a) 11 cwt. of coal at 1s. 10*d.* per cwt.; (b) change out of £1. 10s. = ?
13. (a) 17s. 7½*d.* ÷ 9; (b) 179*d.* = ?; (c) £1. 4s. 6*d.* + ½ of £1. 4s. 6*d.*
14. Take £11. 13s. 10*d.* + £19. 5s. 5*d.* from £50.
15. (a) Spend 17s. 5½*d.* + 5s. 9¾*d.* + 2s. 8*d.* + 12s. 9*d.* (b) Change from £5 note = ?.
16. (a) 12s. 6½*d.* × 7; (b) 12s. 6½*d.* ÷ 7; (c) Take answer (b) from answer (a).
17. (a) 121*d.* = ?; (b) 23 stamps at 1*d.* + 23 stamps at ½*d.*
18. Mother takes 3 loaves each day for 6 days. Find her bread-bill for 6 days, if each loaf costs 4*d.*
19. The wages of 9 boys and 1 man are £11. 4s. 2*d.* How much is that for each boy, if the man's wages are £4. 1s. 8*d.*?
20.
 

(a)	¼ lb. of chocolates at 2s. 8 <i>d.</i> a lb.	=	<i>s.</i>	<i>d.</i>
	2 oz. of sweets at 1s. 4 <i>d.</i> a lb.	=		
	½ lb. of creams at 1s. 10 <i>d.</i> a lb.	=		
	Total	=		
			<i>s.</i>	<i>d.</i>
(b)	2½ lb. of rice at 4 <i>d.</i> a lb.	=		
	8 lb. of sugar at 2 lb. for 4½ <i>d.</i>	=		
	¼ stone of flour at 2s. 2 <i>d.</i> a stone	=		
	Total	=		

## Exercise 15

### Revision

1. (a)  $327 + 94 + 1,347 + 999$ ; (b)  $97 \times 28$ ; (c)  $3,050 - 487$ ; (d) 12 | 1,976.
  2. Find (a)  $7\frac{1}{4}$  times 128; (b)  $3\frac{1}{8}$  times 12s. 6d.
  3. Find the sum of: 17s.  $3\frac{1}{2}d.$ ; 15s. 9d.; 11s.  $8\frac{3}{4}d.$ ; and 9s.  $10\frac{1}{2}d.$
  4. How many farthings are there in  $7\frac{1}{2}d. + 3\frac{1}{4}d. + 4\frac{3}{4}d.?$
  5. Change (a) 59s. to £. s.; (b) 105d. to s. d.; (c) 59 threepences to s. d.
  6. Change (a) 18 lb. 12 oz. to ounces; (b) 7 gall. 1 qt. to pints; (c) 11 ft. 9 in. to inches.
  7. Write down the value of (a) VII; (b) IX; (c) XVI; (d) XXX.
  8. Write in Roman Numerals: 4, 6, 15, 19, 21.
  9. (a) From 12 lb. take 5 lb. 11 oz.; (b) From 1 yard take 1 foot 9 inches.
  10. (a)  $\frac{1}{2} + \frac{1}{4}$ ; (b)  $\frac{5}{8} - \frac{1}{2}$ ; (c)  $\frac{5}{6} - \frac{1}{2}$ ; (d)  $\frac{1}{2} - \frac{1}{4}$ ; (e)  $\frac{1}{2} + \frac{3}{8}$ .
11. 

		s.	d.
(a)	2 sets of wickets at 3s. 11d. a set	=	
	2 cricket balls at 2s. 9d. each	=	
	2 bats at 12s. 9d. each	=	
	Total	=	
			s. d.
(b)	$\frac{1}{2}$ dozen reels of cotton at $5\frac{1}{2}d.$ each	=	
	$\frac{1}{2}$ dozen knots of tape at 1s. 7d. a doz.	=	
	2 dozen packets of needles at 2d. each	=	
	Total	=	
12. (a)  $4,108 - 3,009$ ; (b)  $97 \times 30$ .
  13. From £30 take £18. 12s. 6d. + £7. 13s. 9d.
  14. Add (a) the odd numbers; (b) the even numbers in: 13; 127; 200; 1,721; 1,824; 9; 1,500.
  15. How many minutes are there from (a) 10 minutes to 3 to a quarter to 4? (b) 7 minutes past 5 to 20 minutes to 6? (c) a quarter past 3 to a quarter to 4?
  16. Write in fraction form: (a) three-quarters; (b) one-half; (c) two-thirds; (d) five-eighths; (e) five-sixths.
  17. A motor travels at 37 miles per hour. How far will it travel from 2.30 to 4 o'clock?
  18. A grocer bought 1 gross of eggs. One in every dozen was bad. How many were sound?

## Exercise 16

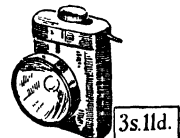
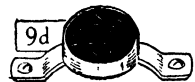
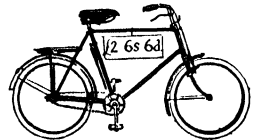
### Shopping

#### TO-DAY'S PRICES

Fresh butter, per lb.	1s. 6d.	Bacon (back), per lb.	1s. 4d.
Danish butter, per lb.	1s. 5d.	Bacon (Empire), per lb.	1s. 1d.
Margarine, per lb.	9d.	Sugar, per lb.	2½d.
New-laid eggs, per dozen	1s. 9d.	Currants, per lb.	10d.
Danish eggs, per dozen	1s. 5d.	Rice, per lb.	5d.
Tea, per lb.	2s. 10d.	Potatoes, per 14 lb.	1s. 0d.
Coffee, per lb.	2s. 8d.	Cheese, per lb.	9d.

(a) How much would each bill amount to? (b) Find the change from £1 after paying each bill.

- |  |  |
|--|--|
| <p>1. ½ lb. of fresh butter.<br/>¼ lb. of tea.<br/>7 lb. of potatoes.<br/>½ lb. of bacon (back).</p> <p>2. 2 dozen eggs (new laid).<br/>¾ lb. of fresh butter.<br/>¾ lb. of tea.<br/>½ lb. of margarine.</p> <p>3. 1¼ lb. of fresh butter.<br/>¼ lb. of tea.<br/>1½ lb. of cheese.<br/>3½ lb. of potatoes.</p> <p>4. ½ lb. of bacon (Empire).<br/>6 lb. of sugar.<br/>1¼ lb. of currants.<br/>½ lb. of rice.</p> | <p>5. 1½ lb. of margarine.<br/>1½ dozen eggs (Danish).<br/>¼ lb. of coffee.<br/>1½ lb. of butter (Danish).</p> <p>6. 1½ dozen eggs (new laid).<br/>¾ lb. of coffee.<br/>¾ lb. of bacon (back).<br/>¼ lb. of tea.</p> <p>7. 2½ lb. of cheese.<br/>14 lb. of sugar.<br/>2½ lb. of rice.<br/>¼ lb. of tea.</p> <p>8. 1½ lb. of bacon (back).<br/>1½ lb. of bacon (Empire).<br/>½ dozen eggs (Danish).<br/>21 lb. of potatoes.</p> |
|--|--|



Fill in the missing quantities or amounts and then find the amount of the bill.

<p>9. ? bacon = 8 s. d.</p> <p>? coffee = 2 0</p> <p>¼ lb. of tea = ?</p> <p style="text-align: center;">—</p>	<p>10. ? cheese = 4½ s. d.</p> <p>? potatoes = 6</p> <p>¼ lb. of bacon (back) = ?</p> <p style="text-align: center;">—</p>
--	--

## Exercise 17

### Number and Money. Revision

#### A. NUMBER

1. Add: 306; 2,004; and 83.
2. Take: 1,207 from 3,001.
3.  $96 \times 34$ .
4.  $1,137 \div 12$ .
5.  $374 + 374 + 374 + 374 + 374$ .
6.  $4,764 \div 12$ .
7. Multiply  $378 + 372$  by  $378 - 372$ .
8. Find  $\frac{1}{8}$  of  $(4,000 - 8)$ .
9.  $1,969 \div 11$ .
10.  $120 \times 36$ .
11.  $2,101 \div 9$ .
12.  $3,103 - 1,711$ .
13.  $179 + 179 + 179 + 179 + 179$ .
14.  $\frac{5}{8}$  of 1,584 +  $\frac{1}{3}$  of 1,998.
15.  $4,013 - 737$ .
16.  $376 \times 11$ .
17. How many years have passed since (a) 1066; (b) 1820?
18. In 1938 I was 54 years of age. When was I born?
19. Lead pencils are packed in boxes holding 1 gross. How many pencils are there in 2 dozen boxes?
20. Subtract in columns and rows:

<u>8,972</u>	<u>7,603</u>
<u>3,177</u>	<u>1,987</u>

#### B. MONEY

1. Add: £1. 12s. 6d.; £12. 9s. 7d.; £13. 11s. 8½d.; and 37 sixpences.
2. From £1. 12s. 7½d. take 15s. 10¾d.
3. 9s. 8d.  $\times$  3½.
4.  $\frac{5}{8}$  of £1. 6s.
5. 39 halfpence + 79d. + 25 three-halfpence.
6. Spend 3s. 9d. + 6s. 4d. + £1. 7s. 9d. Change from £2 = ?.
7. 3½ lb. of beef at 1s. 8d. a lb.
8. 1,000 postcards at 10 a 1d.
9. 7 writing pads at 10½d. each.
10. 8d.  $\times$  39.
11. £2. 0s. 0d. -  $\frac{3}{4}$  of £2. 0s. 0d.
12. Change (a) to farthings, 7¾d.; (b) to shillings, £7. 13s.
13. Change (a) to s. d., 39d.; (b) to £. s., 117 shillings.
14. 19½ hours' work at 5d. an hour = ?
15. £7. 3s. 6d. - £1. 2s. 9½d.
16.  $\frac{2}{3}$  of £1. 13s. 10½d.
17. Find the sum of two £10 notes, three £1 notes, seven 10s. notes, and 101d.
18. I spent 3s. 7½d., 7s. 11½d., and had 5s. 9½d. left. How much had I at first?
19. (a) 1 gross of pencils at 9d. a dozen.  
(b) 2½ dozen eggs at 1½d. each.  
(c) 1¾ lb. of bacon at 1s. 6d. a lb.

## Exercise 18

### Area. Square Inch; Square Foot; Square Yard

1. Draw a rectangle 2 inches long and  $\frac{1}{2}$  an inch wide. Draw lines to show the number of square inches it covers. Area =  $\frac{1}{2} \times 2$  square inches.
2. Draw a rectangle  $3\frac{1}{2}$  inches by 2 inches. Find its area by drawing lines. Area =  $3\frac{1}{2} \times 2$  square inches.
3. Find, by a drawing, the area of a 5-inch square of paper. Area =  $5 \times 5$  square inches.

4. Find the areas of the following oblongs (rectangles).

- (a) Length, 4 inches; width, 3 inches;
- (b) Length, 6 inches; width, 4 inches;
- (c) Length, 5 inches; width,  $2\frac{1}{2}$  inches;
- (d) Length, 12 inches; width, 7 inches.

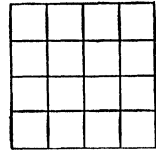


Fig. 1 (Square)

5. Figs. 1 and 2 show a square and a rectangle having equal areas. Each small square in both figures stands for 1 square foot.

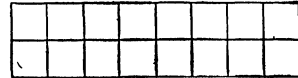


Fig. 2 (Rectangle)

- (a) What is the length of the square?
- (b) What is its area?
- (c) What is the length of the rectangle?
- (d) What is the width of the rectangle?

Area of square =  $4 \times 4$  square feet.  
= 16 square feet.

Area of rectangle =  $8 \times 2$  square feet.  
= 16 square feet.

6. Let each square in your exercise book stand for 1 square foot and draw a square covering 36 square feet. Then draw a rectangle which has the same area as the square.

Now complete (a) and (b) below.

(a) Length of square = ?.      (b) Length of rectangle = ?; Width of rectangle = ?.  
Area of square = ?.      Area of rectangle = ?.

7. Find the area of the following rectangles: (a) 4 ft. by 3 ft.; (b) 6 ft. by 2 ft.; (c) 8 ft. by 7 ft.
8. Estimate the area of the top of your desk. Test by means of your teacher's square foot.
9. What is the area of a table top 6 feet by 4 feet?
10. Find (a) the area, in square yards, of the garden, p. 13, number 10; (b) the area, in square yards, of the grass plot (lawn); (c) the area of the border.

## Exercise 19

### Number and Notation. Addition

1. Read to your neighbour: 3,726; 109; 5,001; 7,356; 8,999; 9,197.
2. Which of the numbers in number 1 are even numbers?
3. Write what each figure stands for in each number in sum 1.
4. Read in as many ways as you can, each number in sum 1.
5. Write in figures: XXIV; XXXIX; XLVI; LXXII; XC.
6. Write in Roman Numerals: 32, 55, 79, 110, 64.
7. (a) Read: 22nd; 31st; 19th; (b) write in the shortened form: seventeenth; twenty-first; eighteenth; thirtieth; seventh.
8. What is the value of the pair of figures underlined: 172; 217; 1,729?
9.  $300 \times 10$ ;  $25 \times 100$ ;  $7 \times 1,000$ ;  $18 \times 20$ ;  $17 \times 500$ .
10. Write in figures the following numbers, and find their sum: Thirty-three; one hundred and seventeen; three hundred and nine; two thousand and twenty-nine.

Add, in columns and rows:

- |            |     |   |     |  |
|------------|-----|---|-----|--|
|            | (a) |   | (b) |  |
| 11.        |     | $73 + 56 + 121 =$   |     | $273 + 348 + 97 =$   |
| 12.        |     | $34 + 89 + 39 =$  |     | $265 + 179 + 165 =$  |
| 13.        |     | $19 + 43 + 116 =$   |     | $137 + 269 + 371 =$  |
| 14.        |     | $\underline{27} + \underline{19} + \underline{78} = \underline{\quad}$                  |     | $\underline{184} + \underline{138} + \underline{279} = \underline{\quad}$                      |
| 15. Totals |     | $\underline{\quad} \quad \underline{\quad} \quad \underline{\quad} = \underline{\quad}$ |     | Totals $\underline{\quad} \quad \underline{\quad} \quad \underline{\quad} = \underline{\quad}$ |

- |     |                       |                       |                     |                       |                       |                       |
|-----|-----------------------|-----------------------|---------------------|-----------------------|-----------------------|-----------------------|
|     | (a)                   | (b)                   | (c)                 | (d)                   | (e)                   | (f)                   |
| 16. | $1,902$               | $1,356$               | $1,373$             | $3,216$               | $1,976$               | $4,379$               |
|     | $+ 796$               | $+ 784$               | $+ 856$             | $+ 715$               | $+ 843$               | $+ 156$               |
|     | $+ 2,159$             | $+ 2,153$             | $+ 1,119$           | $+ 1,316$             | $+ 2,315$             | $+ 1,134$             |
|     | $+ \underline{3,119}$ | $+ \underline{3,116}$ | $+ \underline{976}$ | $+ \underline{2,175}$ | $+ \underline{2,176}$ | $+ \underline{2,295}$ |

17. Find the sum of two thousand two hundred and three, three thousand eight hundred and eleven, two thousand and six, and three hundred and sixteen.
18. How many hundreds make five thousand?
19. In one town there are three thousand and ten girls and half as many boys. How many boys and girls together are there?

## Exercise 20

### Number. Subtraction and Multiplication

#### A. SUBTRACTION

Work the following sums and check your answers:

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1.	7,453	6,253	9,870	8,623	7,111	9,127	3,001
	<u>- 4,948</u>	<u>- 3,296</u>	<u>- 3,894</u>	<u>- 989</u>	<u>- 496</u>	<u>- 2,018</u>	<u>- 273</u>

Subtract, in columns and in rows, and check your answers:

	(a)	(b)	(c)	(d)	(e)	(f)
2.	(i) 8,494	6,923	9,483	3,628	9,117	7,129
	(ii) <u>7,435</u>	<u>3,256</u>	<u>7,809</u>	<u>1,976</u>	<u>3,694</u>	<u>1,082</u>
3.	(i) 7,717	7,166	5,217	2,378	9,316	6,139
	(ii) <u>3,888</u>	<u>1,749</u>	<u>1,719</u>	<u>199</u>	<u>7,887</u>	<u>4,777</u>

4. Find the difference between one thousand and one, and thirteen.
5. What must be added to one to make nine thousand?
6. Take the smallest from the greatest; one thousand three hundred and six; 1,316; four thousand and nine; 4,019.
7. (a)  $3,109 - 999$ ; (b)  $1,015 - 887$ ; (c)  $7,001 - 19$ ; (d)  $9,315 - 756$ .

#### B. MULTIPLICATION

8. Multiply 789 by (a) 4; (b) 5; (c) 6; (d) 7; (e) 8; (f) 9; (g) 11; (h) 12.

	(a)	(b)	(c)	(d)	(e)	(f)
9.	$72 \times 33$	$84 \times 37$	$95 \times 38$	$47 \times 36$	$116 \times 36$	$101 \times 18$
10.	$99 \times 87$	$93 \times 95$	$96 \times 39$	$89 \times 76$	$154 \times 56$	$197 \times 43$
11.	$573 \times 15$	$470 \times 20$	$238 \times 37$	$506 \times 18$	$190 \times 39$	$225 \times 40$
12.	$409 \times 17$	$360 \times 29$	$278 \times 32$	$205 \times 36$	$503 \times 19$	$439 \times 15$

13. Change to inches: 19 yards; 38 yards; 29 yards; 135 yards.
14. Change to ounces: 121 lb.; 137 lb.; 289 lb.; 578 lb.
15. Find the product of three hundred and seventeen and twenty-nine.
16. Find the number which is nineteen times five hundred and six.
17. How many eggs are there altogether in 4 dozen boxes, if each box holds 180?
18. A man weighs  $14\frac{1}{2}$  stones. How many lb. is that? (14 lb. = 1 stone.)
19. (a)  $(3,715 - 3,179) \times 18$ ; (b)  $(9,001 - 8,712) \times 27$ .

## Exercise 21

### Simple Long Division. An Introduction

Work these sums as shown in Example 1:

- | (a)             | (b)          | (c)          | (d)          |
|-----------------|--------------|--------------|--------------|
| 1. $369 \div 3$ | $639 \div 3$ | $936 \div 3$ | $963 \div 3$ |
| 2. $482 \div 2$ | $284 \div 2$ | $842 \div 2$ | $824 \div 2$ |

**Example 1**

$$\begin{array}{r} 342 \\ 2 \overline{)684} \\ \underline{6} \phantom{0} \\ 8 \\ \underline{8} \\ 4 \\ \underline{4} \\ 0 \end{array}$$

Work these sums as shown in Example 2:

- |                   |                |                |                |
|-------------------|----------------|----------------|----------------|
| 3. $597 \div 3$   | $1,768 \div 4$ | $6,265 \div 5$ | $8,832 \div 6$ |
| 4. $8,904 \div 7$ | $9,936 \div 8$ | $7,950 \div 6$ | $9,835 \div 5$ |

**Example 2**

$$\begin{array}{r} 264 \\ 3 \overline{)792} \\ \underline{6} \phantom{0} \\ 19 \\ \underline{18} \\ 12 \\ \underline{12} \\ 0 \end{array}$$

Work these sums as shown in Example 3:

- |                    |                 |                 |                 |
|--------------------|-----------------|-----------------|-----------------|
| 5. $744 \div 8$    | $649 \div 11$   | $5,868 \div 9$  | $2,724 \div 12$ |
| 6. $4,973 \div 12$ | $6,372 \div 11$ | $5,756 \div 10$ | $7,136 \div 9$  |
| 7. $5,921 \div 7$  | $4,732 \div 6$  | $5,516 \div 8$  | $4,279 \div 12$ |

**Example 3**

$$\begin{array}{r} 745 \\ 11 \overline{)8195} \\ \underline{77} \phantom{0} \\ 49 \\ \underline{44} \\ 55 \\ \underline{55} \\ 0 \end{array}$$

Work these sums as shown in Example 4:

- |                   |               |               |               |
|-------------------|---------------|---------------|---------------|
| 8. $900 \div 20$  | $700 \div 20$ | $500 \div 20$ | $300 \div 20$ |
| 9. $320 \div 20$  | $360 \div 20$ | $380 \div 20$ | $420 \div 20$ |
| 10. $330 \div 30$ | $360 \div 30$ | $390 \div 30$ | $420 \div 30$ |
| 11. $480 \div 40$ | $520 \div 40$ | $600 \div 40$ | $720 \div 40$ |
| 12. $660 \div 60$ | $720 \div 60$ | $840 \div 60$ | $700 \div 50$ |

**Example 4**

$$\begin{array}{r} 17 \\ 20 \overline{)340} \\ \underline{20} \phantom{0} \\ 140 \\ \underline{140} \\ 0 \end{array}$$

Work these sums two ways as shown in Examples 5a and 5b:

- |                     |                 |                 |                 |
|---------------------|-----------------|-----------------|-----------------|
| 13. $2,667 \div 20$ | $6,349 \div 30$ | $4,462 \div 40$ | $5,621 \div 50$ |
| 14. $5,072 \div 20$ | $9,673 \div 30$ | $7,901 \div 70$ | $9,000 \div 80$ |
| 15. $6,672 \div 60$ | $6,214 \div 40$ | $8,317 \div 60$ | $7,298 \div 50$ |
| 16. $4,961 \div 30$ | $7,066 \div 50$ | $9,217 \div 80$ | $5,276 \div 40$ |

**Example 5a**

$$\begin{array}{r} 30 \overline{)6437} \\ \underline{214} \phantom{0} \\ 17(R) \end{array}$$

**Example 5b**

$$\begin{array}{r} 214 \\ 30 \overline{)6437} \\ \underline{60} \phantom{0} \\ 43 \\ \underline{30} \\ 137 \\ \underline{120} \\ 17 \text{ over.} \end{array}$$

Work these sums as shown in Example 6:

- |                   |               |               |               |
|-------------------|---------------|---------------|---------------|
| 17. $631 \div 70$ | $548 \div 90$ | $275 \div 30$ | $147 \div 20$ |
| 18. $456 \div 90$ | $326 \div 80$ | $251 \div 50$ | $280 \div 40$ |
| 19. $817 \div 90$ | $210 \div 30$ | $643 \div 80$ | $420 \div 70$ |

**Example 6**

$$\begin{array}{r} 7 \\ 40 \overline{)287} \\ \underline{280} \\ 7 \text{ over.} \end{array}$$

## Exercise 22

### Simple Long Division

A

- | (a)                     | (b)                  | (c)                  | (d)                  | (e)                  | (f)                  |
|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1. $21 \overline{)42}$  | $21 \overline{)84}$  | $31 \overline{)62}$  | $31 \overline{)93}$  | $21 \overline{)84}$  | $21 \overline{)63}$  |
| 2. $21 \overline{)441}$ | $21 \overline{)882}$ | $31 \overline{)651}$ | $31 \overline{)992}$ | $41 \overline{)861}$ | $21 \overline{)693}$ |
| 3. $21 \overline{)336}$ | $41 \overline{)779}$ | $51 \overline{)867}$ | $31 \overline{)372}$ | $41 \overline{)779}$ | $51 \overline{)969}$ |
| 4. $21 \overline{)483}$ | $51 \overline{)612}$ | $31 \overline{)682}$ | $41 \overline{)451}$ | $61 \overline{)854}$ | $81 \overline{)972}$ |
| 5. $32 \overline{)864}$ | $23 \overline{)368}$ | $24 \overline{)552}$ | $43 \overline{)946}$ | $42 \overline{)924}$ | $52 \overline{)728}$ |
| 6. $33 \overline{)396}$ | $43 \overline{)559}$ | $34 \overline{)510}$ | $22 \overline{)528}$ | $23 \overline{)759}$ | $44 \overline{)968}$ |

B

- |                          |                      |                      |                      |                      |                      |
|--------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 7. $28 \overline{)112}$  | $37 \overline{)185}$ | $29 \overline{)145}$ | $34 \overline{)272}$ | $25 \overline{)225}$ | $19 \overline{)133}$ |
| 8. $35 \overline{)245}$  | $26 \overline{)234}$ | $37 \overline{)222}$ | $46 \overline{)368}$ | $27 \overline{)108}$ | $18 \overline{)108}$ |
| 9. $47 \overline{)329}$  | $36 \overline{)288}$ | $17 \overline{)153}$ | $46 \overline{)414}$ | $39 \overline{)312}$ | $45 \overline{)360}$ |
| 10. $47 \overline{)281}$ | $36 \overline{)212}$ | $38 \overline{)189}$ | $25 \overline{)219}$ | $79 \overline{)351}$ | $37 \overline{)213}$ |
| 11. $28 \overline{)103}$ | $26 \overline{)123}$ | $47 \overline{)321}$ | $19 \overline{)151}$ | $35 \overline{)269}$ | $68 \overline{)551}$ |

C

- |                            |                        |                        |                        |                        |
|----------------------------|------------------------|------------------------|------------------------|------------------------|
| 12. $35 \overline{)2,975}$ | $57 \overline{)4,902}$ | $38 \overline{)2,014}$ | $49 \overline{)3,626}$ | $64 \overline{)4,352}$ |
| 13. $34 \overline{)2,824}$ | $72 \overline{)4,201}$ | $25 \overline{)1,789}$ | $29 \overline{)1,219}$ | $87 \overline{)5,613}$ |
| 14. $52 \overline{)932}$   | $32 \overline{)771}$   | $24 \overline{)384}$   | $43 \overline{)511}$   | $47 \overline{)981}$   |
| 15. $62 \overline{)927}$   | $57 \overline{)736}$   | $48 \overline{)816}$   | $53 \overline{)631}$   | $75 \overline{)893}$   |
| 16. $33 \overline{)1,726}$ | $43 \overline{)1,119}$ | $78 \overline{)3,843}$ | $75 \overline{)3,164}$ | $28 \overline{)2,171}$ |
| 17. $25 \overline{)1,759}$ | $57 \overline{)3,106}$ | $89 \overline{)8,137}$ | $39 \overline{)2,371}$ | $36 \overline{)2,917}$ |
| 18. $32 \overline{)437}$   | $19 \overline{)1,174}$ | $43 \overline{)596}$   | $15 \overline{)1,297}$ | $72 \overline{)819}$   |

19. How many yards are there in 432 inches?
20. How many days are there in 768 hours? (24 hours = 1 day.)
21. A boy had 689 cigarette pictures in sets. How many were there in each set, if he had 13 sets?
22. How many rows of cabbages can a gardener plant with 3,240 plants, if he puts 72 in a row?
23. How many boxes will be required for 1,296 eggs, if each box holds 4 dozen?

## Exercise 23

### Revision

(a)	(b)	(c)	(d)	(e)
1. 3,009	3,851	3,268	3,915	2,323
- <u>1,007</u>	- <u>2,738</u>	- <u>1,735</u>	- <u>1,636</u>	- <u>786</u>

Work the following subtraction sums and check your answers:

2. 4,506	3,000	1,000	5,000	4,326
- <u>1,379</u>	- <u>1,908</u>	- <u>19</u>	- <u>10</u>	- <u>2,577</u>

Change:

- |                           |                        |                         |
|---------------------------|------------------------|-------------------------|
| (a)                       | (b)                    | (c)                     |
| 3. 22 halfpence to pence. | 19 farthings to pence. | 79d. to s. d.           |
| 4. 143 pence to s. d.     | 39 sixpences to s. d.  | 67 threepences to s. d. |
| 5. 7 lb. 5 oz. to oz.     | 37 lb. to oz.          | 18½ lb. to oz.          |
| 6. 29¼ gall. to qt.       | 19½ gall. to pints.    | 195 pt. to quarts.      |
| 7. 137 qt. to gall.       | 156 pt. to gall.       | £8. 13s. to shillings.  |

8. $\begin{array}{r} \text{£} \text{ s. } d. \\ 17 \text{ } 8 \\ \times \quad \quad 7 \\ \hline \end{array}$	$\begin{array}{r} \text{£} \text{ s. } d. \\ 12 \text{ } 9\frac{1}{2} \\ \times \quad \quad 11 \\ \hline \end{array}$	$\begin{array}{r} \text{£} \text{ s. } d. \\ 1 \text{ } 8 \text{ } 9 \\ \times \quad \quad 3 \\ \hline \end{array}$	$\begin{array}{r} \text{£} \text{ s. } d. \\ 1 \text{ } 4 \text{ } 9 \\ \times \quad \quad 12 \\ \hline \end{array}$	$\begin{array}{r} \text{£} \text{ s. } d. \\ 2 \text{ } 5 \text{ } 7 \\ \times \quad \quad 6 \\ \hline \end{array}$
9. $9 \begin{array}{r} \text{s. } d. \\ \underline{15 \text{ } 11\frac{1}{4}} \end{array}$	$10 \begin{array}{r} \text{s. } d. \\ \underline{16 \text{ } 3} \end{array}$	$10 \begin{array}{r} \text{£} \text{ s. } d. \\ \underline{25 \text{ } 7 \text{ } 6} \end{array}$	$12 \begin{array}{r} \text{£} \text{ s. } d. \\ \underline{1 \text{ } 8 \text{ } 6} \end{array}$	$5 \begin{array}{r} \text{£} \text{ s. } d. \\ \underline{32 \text{ } 12 \text{ } 6} \end{array}$
10. $95 \times 74$	$77 \times 66$	$138 \times 49$	$176 \times 50$	$110 \times 40$

Subtract, in columns and in rows, and check your answers:

	(a)	(b)		(c)	(d)
11.	(i) 3,216	2,010		(i) 8,972	7,603
	(ii) <u>2,377</u>	<u>2,001</u>		(ii) <u>3,177</u>	<u>1,987</u>

12. (a)  $1,276 + 19 + 756 + 4,328$ ; (b)  $8,017 - 4,999$ ; (c)  $4,608 \div 96$ .
13. (a)  $1,259 \div 37$ ; (b)  $811 \div 68$ ; (c)  $816 \div 69$ ; (d)  $2,973 \div 34$ ; (e)  $3,176 \div 45$ .
14. (a)  $3,010 - 300$ ; (b)  $125 \times 41$ ; (c)  $896 \div 78$ .

## Exercise 24

### Revision

- (a)  $8,031 - 3,456$ ; (b)  $172 \times 49$ ; (c)  $1,222 \div 34$ .
- (a)  $\pounds 1. 16s. 3d. + 12s. 11d. + 9d. + \pounds 25. 19s. 9d.$ ; (b)  $\pounds 40. 0s. 3d. - \pounds 15. 7s. 9d.$
- (a)  $15s. 9\frac{1}{2}d. \times 7$ ; (b)  $\pounds 16. 7s. 6d. \div 10$ ; (c)  $\frac{1}{8}$  of  $14s. 4d. + \frac{1}{3}$  of  $5s. 4\frac{1}{2}d.$
- 12 articles at  $1s. 9\frac{1}{2}d.$  each + 11 at  $1s. 3\frac{1}{2}d.$  each = ?.
- 120 halfpenny stamps + 120 penny stamps + 120 threehalfpenny stamps.  
Find the total value.
- Change (a) to half-pints: 7 gall. 1 pint; (b) to pence,  $17s. 6d.$ ;  
(c) to  $\frac{1}{4}$  lb.,  $96\frac{1}{2}$  lb.
- (a)  $3,001 \div 41$ ; (b)  $123 \times 57$ ; (c)  $14s. 7\frac{1}{2}d. \times 9$ .
- Add the sum of three thousand and nine and eleven hundred and seventy-six to their difference.
- How much short of  $\pounds 10$  is the difference between  $\pounds 15. 1s. 7d.$  and  $\pounds 11. 9s. 6d.$ ?
- Write in Roman Numerals: 11, 32, 90, 109, 111.
- 19 boxes each contain 180 oranges. Four and a half dozen are bad. How many are sound?
- How many halfpennies, placed side by side, will measure a distance of 4 yd. 1 ft.? Find their value in  $s. d.$
- Draw to scale, on squared paper (1 square = 1 sq. foot), the floor of a room 12 ft. by 9 ft. showing a carpet in the middle, leaving a border of 1 foot all round. Find, by counting the squares, the area in square feet of (a) the floor; (b) the carpet; (c) the border.
- (a)  $93 \times 87$ ; (b)  $7,315 \div 90$ ; (c)  $876 \div 72$ ; (d)  $179 \times 50$ .
- (a)  $\pounds 1. 13s. 6d. + 17s. 9d. + \pounds 5. 8s. 9d. + 1s. 0\frac{1}{2}d.$ ; (b)  $\pounds 37. 1s. 1d. - \pounds 14. 14s.$
- (a)  $13s. 4\frac{1}{2}d. \times 12$ ; (b)  $12s. 6\frac{1}{2}d. \div 7$ ; (c)  $(\pounds 1. 5s. 6d. \times 11) - \pounds 5. 5s.$
- (a)  $\frac{1}{2} + \frac{1}{4}$ ; (b)  $1 - \frac{5}{8}$ ; (c)  $\frac{1}{3} + \frac{1}{2}$ ; (d)  $\frac{1}{6} + \frac{2}{3}$ ; (e)  $\frac{1}{4} + \frac{1}{2} + \frac{1}{8}$ .
- Change (a) to oz., 17 lb. 4 oz.; (b) to quarts, 19 gall. 3 qt.
- How many minutes are there (a) from a quarter to four to ten past four; (b) from  $\frac{1}{4}$  past 6 to 7.15?
- A rectangle measures  $5\frac{1}{2}$  inches by 4 inches. Find (a) the distance round; (b) the area.
- The bus set out at 1.40 and arrived at 2.20. How long did it take?

## Exercise 25

### Tests

#### A

1. Find the sum of: £3. 2s. 6d., £2. 7s. 9d., 10 half-crowns, and three 10s. notes.
2. (a)  $76 \times 63$ ; (b)  $3,076 \div 38$ ; (c)  $3,024 - 1,999$ ; (d)  $2,756 + 119 + 3,154 + 17$ .
3. Mother takes  $1\frac{1}{2}$  pints of milk each day for 6 days. Find the total cost at  $3\frac{1}{2}d.$  a pint.
4. £21. 13s. 4d.  $\div 10$ .
5. Share 5,292 marbles equally among 5 boys and 4 girls.

#### B

1. (a)  $\frac{2}{3}$  of £3. 16s. +  $\frac{1}{8}$  of £6. 8s. 8d.; (b)  $12s. 7\frac{1}{2}d. \times 6$ ; (c) £11. 13s. 4d. - £3. 17s. 9d.
2. How much is the sum of £3. 11s. 6d., £7. 3s. 9d., and £11. 18s. 5d. short of £50?
3. A train travels from Edinburgh to London, 392 miles, in 8 hours. How many miles per hour is that?
4. Take 1,378 from the sum of 1,250 and 1,301.
5. 11 lb. of raisins at 1s.  $1\frac{1}{2}d.$  per lb. = ?.

#### C

1. Find the total of 2 gross, 3 score,  $9\frac{1}{2}$  dozen, and eleven hundred and thirty-one.
2. (a)  $116 \times 57$ ; (b)  $5,001 - 2,374$ ; (c)  $956 \div 37$ ; (d)  $\frac{1}{3}$  of the sum of 1,125 and 720.
3. Rice is sold at  $2\frac{1}{2}d.$  per lb. Find the cost of 1 cwt. (112 lb.).
4. £2. 19s. 6d.  $\times 12$ .
5. Envelopes are sold at 25 for 2d. How much will 1,000 cost?

#### D

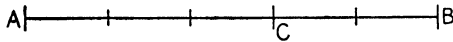
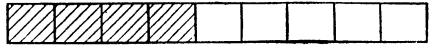
1. (a)  $17s. 3\frac{1}{2}d. \times 11$ ; (b) £12. 13s. 5d. - £7. 14s. 9d.; (c) £1. 16s.  $5\frac{1}{2}d. \div 5$ .
2. 11 yards at 2s.  $9\frac{1}{4}d.$  a yd. = ?.
3. A shopkeeper takes £5. 19s. 7d. on Thursday and £12. 19s. 4d. on Friday. How much does he take on Saturday if his takings for the 3 days are £41. 1s. 7d.?
4. Divide £17. 15s. equally among 12 men.
5. Divide the sum of 1,137, 1,127, and 957 by 53.

## Exercise 26

### Easy Fractions

												ONE WHOLE	1
												HALVES	$\frac{1}{2}$
												QUARTERS	$\frac{1}{4}$
												EIGHTHS	$\frac{1}{8}$

												ONE WHOLE	1
												THIRDS	$\frac{1}{3}$
												SIXTHS	$\frac{1}{6}$
												TWELFTHS	$\frac{1}{12}$

1. Take a strip of paper and fold it to show thirds, sixths, and twelfths. Colour  $\frac{1}{3}$  red,  $\frac{1}{6}$  blue, and  $\frac{1}{12}$  yellow.
2. (a) How many sixths in  $\frac{1}{3}$ ? (b) How many twelfths in  $\frac{1}{3}$ ? (c) How many twelfths in  $\frac{2}{3}$ ? (d) How many twelfths in  $\frac{2}{3} + \frac{1}{12}$ ? (e) How many twelfths in  $\frac{1}{3} + \frac{1}{12}$ ?
3. (a)  $1 - \frac{2}{3} = ?$ ; (b)  $1 - \frac{5}{6} = ?$ ; (c)  $1 - \frac{7}{12} = ?$ ; (d)  $\frac{1}{3} + \frac{1}{12} = ?$ ; (e)  $\frac{7}{12} + \frac{4}{12} = ?$ ; (f)  $\frac{1}{3} + \frac{1}{6} = ?$ .
4. Write as twelfths:  $\frac{2}{3}$ ;  $\frac{1}{6}$ ;  $\frac{1}{3}$ ;  $\frac{5}{6}$ ;  $\frac{1}{2}$ ;  $\frac{1}{4}$ ;  $\frac{3}{4}$ .
5. Find on your ruler,  $2\frac{5}{12}$  inches. How many twelfths altogether?
6. How many twelfths in  $1\frac{1}{2}$ ;  $1\frac{5}{12}$ ;  $1\frac{1}{12}$ ; 2?
7. How many inches and twelfths in  $1\frac{3}{12}$  inches? Now write, in another way,  $\frac{4}{3}$ ,  $\frac{11}{6}$ ,  $\frac{19}{12}$ ,  $\frac{24}{12}$ ,  $\frac{27}{12}$ .
8. Find (a)  $\frac{1}{2}$  of £1; (b)  $\frac{1}{4}$  of 16 gall.; (c)  $\frac{2}{3}$  of 1 guinea; (d)  $\frac{3}{8}$  of 24 hours; (e)  $\frac{5}{6}$  of 60 minutes.
9. Find (a)  $\frac{1}{2}$ ; (b)  $\frac{1}{4}$ ; (c)  $\frac{1}{3}$ ; (d)  $\frac{1}{8}$ ; (e)  $\frac{1}{6}$ ; (f)  $\frac{1}{12}$  of £1.
10. What part of 1 hour is (a) 30 minutes; (b) 15 min.; (c) 10 min.; (d) 5 min.; (e) 20 min.?
11. What part of the line AB is AC? 
12. Draw a line  $3\frac{1}{2}$  inches long. Mark off the half-inches. How many? What part of the line is (a) one half-inch; (b) 5 half-inches?
13. Into how many equal parts has the oblong been divided? What part is shaded? What part is left unshaded? 
14. Write in another form: (a)  $\frac{3}{3}$ ;  $\frac{6}{3}$ ;  $\frac{5}{3}$ ;  $\frac{17}{3}$ ; (b)  $\frac{6}{6}$ ;  $\frac{12}{6}$ ;  $\frac{8}{6}$ ;  $\frac{11}{6}$ ;  $\frac{13}{6}$ .
15. (a)  $\frac{7}{12} + \frac{1}{12}$ ; (b)  $\frac{5}{12} + \frac{7}{12}$ ; (c)  $\frac{1}{12} + \frac{11}{12}$ ; (d)  $\frac{11}{12} + \frac{7}{12}$ ; (e)  $\frac{1}{12} + \frac{5}{12} + \frac{7}{12}$ .
16. (a)  $\frac{2}{3} + \frac{1}{12}$ ; (b)  $\frac{1}{2} + \frac{1}{12}$ ; (c)  $\frac{1}{4} + \frac{1}{12}$ ; (d)  $\frac{3}{4} + \frac{1}{12}$ ; (e)  $\frac{5}{6} + \frac{1}{12}$ .
17. (a)  $1\frac{1}{2} - \frac{1}{12}$ ; (b)  $\frac{5}{12} - \frac{1}{12}$ ; (c)  $\frac{1}{6} - \frac{1}{12}$ ; (d)  $\frac{1}{3} - \frac{1}{12}$ ; (e)  $\frac{3}{4} - \frac{5}{12}$ .
18. Find (a)  $\frac{1}{3}$ ; (b)  $\frac{1}{4}$ ; (c)  $\frac{1}{9}$  of £15. 15s.
19. What part of £1 is (a) 4s.; (b) 12s.; (c) 16s.?

## Exercise 27

### Money. Addition and Multiplication

#### A. ADDITION

	(a)	(b)	(c)	(d)
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1.	$\begin{array}{r} 3\ 9 \\ 17\ 6 \\ \hline 1\ 7\ 8 \end{array}$	$\begin{array}{r} 5\ 11 \\ 14\ 9 \\ \hline 2\ 3\ 6 \end{array}$	$\begin{array}{r} 1\ 3\ 6\frac{1}{2} \\ 7\ 5\frac{1}{4} \\ \hline 13\ 9 \end{array}$	$\begin{array}{r} 2\ 3\ 6\frac{1}{4} \\ 12\ 9\frac{1}{2} \\ \hline 8\ 7\frac{1}{4} \end{array}$
2.	$\begin{array}{r} 13\ 6 \\ 2\ 7\ 9 \\ 14\ 8 \\ \hline 4\ 5\ 9 \end{array}$	$\begin{array}{r} 1\ 17\ 9 \\ 7\ 11 \\ 3\ 8\ 6 \\ \hline 9\ 5 \end{array}$	$\begin{array}{r} 3\ 11\ 8\frac{3}{4} \\ 9\ 0\ 0\frac{1}{2} \\ 17\ 11\frac{1}{4} \\ \hline 5\ 9 \end{array}$	$\begin{array}{r} 11\ 10\ 3\frac{1}{2} \\ 9\ 4\frac{1}{2} \\ 17\ 6\frac{1}{2} \\ \hline 3\ 11\frac{1}{2} \end{array}$
3.	$\begin{array}{r} 4\ 3\ 5 \\ 9\ 2\ 7 \\ 1\ 8\ 10 \\ \hline 12\ 13\ 0 \end{array}$	$\begin{array}{r} 5\ 3\ 0 \\ 17\ 6 \\ 8\ 9\ 0 \\ \hline 4\ 10\ 7\frac{1}{2} \end{array}$	$\begin{array}{r} 12\ 3\ 6\frac{1}{4} \\ 17\ 9\frac{1}{4} \\ 2\ 18\ 7\frac{1}{4} \\ \hline 1\ 13\ 5\frac{1}{4} \end{array}$	$\begin{array}{r} 17\ 10\ 9\frac{1}{2} \\ 1\ 15\ 8\frac{1}{2} \\ 2\ 17\ 9\frac{1}{4} \\ \hline 3\ 9\ 8\frac{1}{4} \end{array}$
4.	$\begin{array}{r} 11\ 10\ 9 \\ 3\ 7\ 8 \\ 5\ 8\ 7 \\ \hline 7\ 5\ 10 \end{array}$	$\begin{array}{r} 13\ 17\ 6 \\ 8\ 9\frac{1}{4} \\ 13\ 11 \\ \hline 23\ 10\ 8 \end{array}$	$\begin{array}{r} 3\ 12\ 6\frac{1}{4} \\ 1\ 15\ 7\frac{3}{4} \\ 9\ 13\ 8\frac{1}{2} \\ \hline 11\ 6\ 9\frac{1}{2} \end{array}$	$\begin{array}{r} 8\ 13\ 7\frac{1}{4} \\ 17\ 9\frac{3}{4} \\ 13\ 12\ 8\frac{1}{2} \\ \hline 1\ 19\ 6\frac{3}{4} \end{array}$

#### B. MULTIPLICATION

5. Multiply 11s. 6d. by (a) 7; (b) 8; (c) 9; (d) 10; (e) 11; (f) 12.
6. Multiply 12s. 4½d. by (a) 7; (b) 8; (c) 9; (d) 10; (e) 11; (f) 12.
7. Multiply £1. 6s. 5d. by (a) 3; (b) 4; (c) 6; (d) 7; (e) 11; (f) 12.
8. Multiply £3. 10s. 9d. by (a) 8; (b) 9; (c) 10; (d) 12.
9. Multiply £1. 4s. 1½d. by (a) 5; (b) 7; (c) 12.
10. Multiply £4. 5s. 1d. by (a) 7; (b) 9; (c) 11.
11. Multiply £1. 4s. 2½d. by (a) 6; (b) 7; (c) 8; (d) 9; (e) 10; (f) 12.

	(a)	(b)	(c)	(d)	(e)	(f)
12.	4d. × 20	3d. × 40	6d. × 30	2d. × 25	3d. × 27	4d. × 32
13.	5d. × 17	6d. × 23	7d. × 41	8d. × 19	9d. × 15	7d. × 21
14.	4s. × 14	3s. × 15	7s. × 18	8s. × 20	12s. × 21	10s. × 32
15.	15s. × 14	14s. × 16	17s. × 18	18s. × 20	19s. × 21	18s. × 18
16.	17s. × 21	14s. × 15	16s. × 31	17s. × 29	19s. × 23	15s. × 32

## Exercise 28

### Money. Subtraction and Division

#### A. SUBTRACTION

	(a)	(b)	(c)	(d)	(e)	(f)
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1.	$\begin{array}{r} 17\ 5\frac{1}{2} \\ \underline{8\ 9\frac{3}{4}} \end{array}$	$\begin{array}{r} 15\ 6 \\ \underline{7\ 9\frac{1}{2}} \end{array}$	$\begin{array}{r} 1\ 15\ 6\frac{1}{2} \\ \underline{13\ 9\frac{3}{4}} \end{array}$	$\begin{array}{r} 1\ 12\ 11\frac{1}{2} \\ \underline{14\ 9\frac{3}{4}} \end{array}$	$\begin{array}{r} 1\ 14\ 5\frac{1}{4} \\ \underline{17\ 6\frac{1}{2}} \end{array}$	$\begin{array}{r} 5\ 11\ 4\frac{1}{2} \\ \underline{2\ 19\ 3} \end{array}$
2.	$\begin{array}{r} 37\ 12\ 5 \\ \underline{9\ 17\ 8} \end{array}$	$\begin{array}{r} 43\ 17\ 4 \\ \underline{8\ 15\ 9} \end{array}$	$\begin{array}{r} 57\ 13\ 4 \\ \underline{9\ 15\ 6} \end{array}$	$\begin{array}{r} 76\ 14\ 9 \\ \underline{29\ 13\ 10} \end{array}$	$\begin{array}{r} 81\ 14\ 9 \\ \underline{37\ 15\ 9} \end{array}$	$\begin{array}{r} 90\ 0\ 0 \\ \underline{27\ 13\ 6} \end{array}$
3.	$\begin{array}{r} 7\ 12\ 3\frac{1}{2} \\ \underline{6\ 16\ 9\frac{3}{4}} \end{array}$	$\begin{array}{r} 7\ 14\ 3 \\ \underline{3\ 16\ 8\frac{1}{2}} \end{array}$	$\begin{array}{r} 4\ 12\ 8\frac{1}{2} \\ \underline{2\ 17\ 11\frac{1}{2}} \end{array}$	$\begin{array}{r} 10\ 0\ 0 \\ \underline{2\ 12\ 7\frac{1}{2}} \end{array}$	$\begin{array}{r} 12\ 0\ 0 \\ \underline{3\ 18\ 4\frac{1}{4}} \end{array}$	$\begin{array}{r} 10\ 0\ 0 \\ \underline{4\ 13\ 7\frac{3}{4}} \end{array}$

4. From ninety-one pounds twelve shillings take thirty-seven pounds thirteen shillings and sixpence.
5. How much must be added to £10. 3s. 1½d. to make £78. 1s. 0d.?
6. Find the difference between three and a half guineas and seven pounds seven shillings and fourpence.

#### B. DIVISION

	(a)	(b)	(c)	(d)	(e)
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
7.	$9 \overline{)40\ 5\ 6}$	$8 \overline{)43\ 15\ 4}$	$9 \overline{)39\ 4\ 6}$	$7 \overline{)51\ 4\ 4}$	$5 \overline{)62\ 12\ 6}$
8.	$10 \overline{)80\ 12\ 6}$	$9 \overline{)90\ 12\ 9}$	$11 \overline{)77\ 13\ 9}$	$10 \overline{)1\ 5\ 5}$	$9 \overline{)1\ 4\ 11\frac{1}{4}}$
9.	$5 \overline{)10\ 16\ 5\frac{1}{2}}$	$6 \overline{)12\ 7\ 9}$	$7 \overline{)14\ 8\ 10\frac{3}{4}}$	$8 \overline{)8\ 10\ 10}$	$9 \overline{)18\ 19\ 8\frac{1}{4}}$
10.	$5 \overline{)6\ 6\ 3}$	$6 \overline{)13\ 7\ 6}$	$9 \overline{)19\ 11\ 6}$	$10 \overline{)21\ 4\ 2}$	$7 \overline{)22\ 12\ 1}$
11.	$8 \overline{)1\ 6\ 6}$	$12 \overline{)88\ 18\ 0}$	$11 \overline{)80\ 8\ 9}$	$9 \overline{)1\ 5\ 10\frac{1}{2}}$	$7 \overline{)1\ 2\ 5\frac{1}{2}}$

#### C. PROBLEMS

12. Five weeks' rent amounts to £4. 10s. 10d. How much is that per week?
13. Father bought 12 lb. of ham for 14s. 6d. How much per lb. was that?
14. The railway fares of 7 adults amounted to £18. 1s. 1d. How much was that for each?
15. What will 7 weeks' rent amount to at 11s. 7d. per week?
16. Find the sum of ten £5 notes, one £20 note, 17 ten-shilling notes, and 137 shillings.
17. I paid, for a bicycle, £7. 17s. 6d., and for a lamp, 12s. 9d. How much had I left out of a £10 note?

## Exercise 29

### Weights and Measures. Addition and Subtraction

1. Change to ounces: 3 lb.,  $4\frac{1}{2}$  lb.,  $4\frac{3}{4}$  lb.,  $5\frac{1}{4}$  lb., 2 lb. 2 oz., 7 lb. 4 oz., 5 lb. 12 oz., 3 lb. 13 oz.
2. Change to lb. and oz.: 32 oz., 48 oz., 64 oz., 18 oz., 53 oz., 72 oz., 102 oz., 121 oz.
3. Change to quarts: 2 gallons, 4 gall.,  $5\frac{1}{2}$  gall., 10 gall., 3 gall. 2 qt., 5 gall. 3 qt., 2 gall. 1 qt.
4. Change to pints: 3 quarts 1 pint, 2 qt. 1 pt., 2 gall. 1 pt.,  $4\frac{1}{2}$  gall., 5 gall. 3 pt.
5. Change to quarts and pints: 6 pints, 9 pt., 7 pt., 15 pt., 33 pt., 11 pt.
6. Change to gallons and quarts: 17 quarts, 13 qt., 21 qt., 32 qt., 15. qt.
7. Change to hours: 2 days, 1 day 8 hr., 3 days 12 hr., 2 days 7 hr.
8. Change to days and hours: 96 hours, 72 hours, 32 hours, 41 hours, 37 hr.

#### ADDITION

(a)		(b)		(c)		(d)		(e)		(f)		(g)	
lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	gall.	qt.	gall.	qt.	gall.	qt.
9.	1 3	2 3	3 5	1 11	2 1	2 3	4 3	2 1	2 3	4 3	4 3	2 1	2 3
	2 13	1 11	2 12	2 9	1 2	1 1	3 3	1 2	1 1	3 3	3 3	1 1	1 1
	<u>1 6</u>	<u>2 7</u>	<u>3 9</u>	<u>1 6</u>	<u>2 3</u>	<u>3 2</u>	<u>1 3</u>	<u>2 3</u>	<u>3 2</u>	<u>1 3</u>	<u>1 3</u>	<u>3 2</u>	<u>1 3</u>
tons cwt.		tons cwt.		tons cwt.		ft. in.		ft. in.		ft. in.		ft. in.	
10.	3 7	5 11	3 17	3 3	4 6	1 11	2 9	4 6	1 11	2 9	2 9	2 9	2 9
	2 11	3 17	2 11	2 9	3 7	3 10	1 8	3 7	3 10	1 8	3 7	3 10	1 8
	<u>1 12</u>	<u>4 2</u>	<u>1 9</u>	<u>1 7</u>	<u>2 9</u>	<u>2 11</u>	<u>3 7</u>	<u>2 9</u>	<u>2 11</u>	<u>3 7</u>	<u>2 11</u>	<u>3 7</u>	<u>3 7</u>
yd. ft.		yd. ft.		yd. ft.		dy. hr.		dy. hr.		dy. hr.		dy. hr.	
11.	3 1	4 2	9 1	1 7	1 17	2 17	2 21	1 17	2 17	2 17	2 21	2 17	2 21
	1 2	3 2	1 2	1 11	2 9	2 18	1 22	2 9	2 18	1 22	1 22	2 18	1 22
	<u>2 2</u>	<u>2 2</u>	<u>5 2</u>	<u>2 16</u>	<u>3 6</u>	<u>3 23</u>	<u>3 23</u>	<u>3 6</u>	<u>3 23</u>	<u>3 23</u>	<u>3 23</u>	<u>3 23</u>	<u>3 23</u>

#### SUBTRACTION

12.	5 19	5 3	7 17	8 14	4 13	4 9	3 11	2 13	1 15
	<u>2 13</u>	<u>1 15</u>	<u>3 19</u>	<u>2 17</u>	<u>2 9</u>	<u>2 13</u>	<u>1 15</u>	<u>2 13</u>	<u>1 15</u>
ft. in.		ft. in.		ft. in.		qt. pt.		qt. pt.	
13.	3 7	4 5	7 9	3 4	3 0	4 1	5 0	4 1	5 0
	<u>1 9</u>	<u>2 11</u>	<u>1 10</u>	<u>2 11</u>	<u>1 1</u>	<u>2 1</u>	<u>2 1</u>	<u>2 1</u>	<u>2 1</u>
dy. hr.		dy. hr.		dy. hr.		yd. ft.		yd. ft.	
14.	7 19	3 20	4 5	7 11	5 2	3 1	7 1	3 1	7 1
	<u>2 11</u>	<u>1 22</u>	<u>1 19</u>	<u>1 13</u>	<u>1 1</u>	<u>1 2</u>	<u>3 2</u>	<u>1 2</u>	<u>3 2</u>

15. A 25-foot wireless pole has 3 ft. 9 in. in the ground. What length is above ground?
16. One man weighs  $13\frac{1}{2}$  stone and another 11 stones 9 lb. Find the difference between their weights. (14 lb. = 1 stone.)
17. Use 2 lb. 7 oz. of sugar out of 4 lb. What weight is left?

## Exercise 30

### Revision

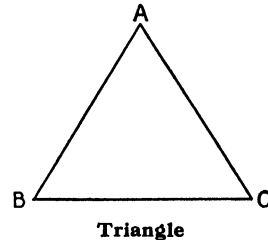
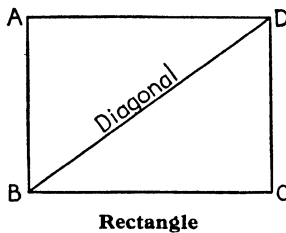
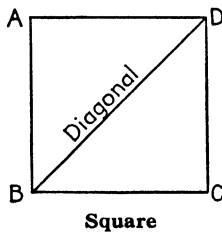
- (a)  $79 \times 26$ ; (b)  $1,723 \div 36$ ; (c)  $9,000 - 3,001$ ; (d)  $11d. \times 79$ .
- (a)  $\pounds 97. 16s. 7\frac{1}{2}d. \div 11$ ; (b) From  $\frac{1}{4}$  of  $\pounds 95. 15s. 6d.$  take  $\frac{1}{3}$  of  $\pounds 35. 0s. 1\frac{1}{2}d.$
- (a) 13 tons 9 cwt. — 97 cwt.; (b)  $95d. + 11$  threepences + 31 sixpences + 73s.
- (a) 12 gallons at 3d. a pint; (b) Length = 12 ft.; Width = 9 ft. Area = ?.
- (a) 221 penny stamps = ?; (b) 73 threepenny stamps = ?; (c) 22 articles at 2s. 6d. each = ?.
- Buy 4 pairs of stockings at 2s.  $11\frac{1}{2}d.$  a pair; change out of  $\pounds 1 = ?$ .
- (a)  $\frac{7}{8} - \frac{1}{2}$ ; (b)  $\frac{1}{3} + \frac{1}{4}$ ; (c)  $\frac{7}{8} + \frac{3}{4}$ ; (d)  $\frac{1}{2} - \frac{1}{3}$ .
- Spend  $\pounds 1. 13s. 6\frac{1}{2}d. + 7s. 11d.$ ; change out of  $\pounds 3 = ?$ .
- Find the difference between eighteen hundred and nine and nine thousand and one.
- To the sum of 1,734 and 2,119 add their difference.

- 
- A picture-show commenced at 6.30 and ended at 8.15. How many hours and minutes did it last?
  - Butter is bought at 1s. 1d. a lb. and sold at 1s. 6d. a lb. Find the profit on 1 cwt. (112 lb.)
  - My lawn is 6 yards 7 inches long and 5 yards 9 inches wide. Find (a) the distance all round; (b) the difference in inches between the length and the width.
  - A cake weighs 11 lb. 7 oz. What weight of cake will be left after selling 2 lb. 3 oz. to Mrs. Smith and 4 lb. 14 oz. to Mrs. Jones?

- 
- 410 sixpences + 720 ninepences + 115 shillings =  $\pounds s. d.$
  - A table top is 6 ft. long and 3 ft. wide. Let 1 inch stand for 1 foot and make a drawing of the table top.
  - What is the area of *your* drawing, No. 16? How far is it all round: (a) the *actual* table top; (b) *your* drawing?
  - Change first to feet and then to yards: (a) 144 inches; (b) 216 inches.
  - Change to inches: (a) 3 ft. 11 in.; (b) 7 ft. 9 in.; (c) 11 ft. 7 in.

## Exercise 31

### Lines and Angles: The Circle



1. Look at the square. Name the vertical lines and the horizontal lines. Which lines are parallel?
2. Repeat question 1 for the rectangle. How does a rectangle differ from a square?
3. What sorts of lines do you find in the triangle?
4. Take a circular piece of paper and fold it as shown in fig. 1 (the dotted lines represent creases). What part of the circle is each of the angles? How many degrees are there in each of the angles (fig. 1)?
5. Now fold your circle as shown in fig. 2. What part of the circle is the angle AOF? How many degrees are there in each of the angles (fig. 2)?
6. Which angles in fig. 2 are (a) right angles; (b) acute angles; (c) obtuse angles?
7. Through how many degrees does the minute hand of a clock move (a) in 5 minutes (see fig. 3); (b) in 10 mins.; (c) in 15 mins.; (d) in 20 mins.; (e) in 30 mins.; in 45 mins.; in 25 mins.; in 60 mins.; in 45 mins.?
8. Take a square piece of cardboard and draw a diagonal (see square above). Cut along the diagonal and you have two set-squares. Examine one of the set-squares and note the angles.
9. Use your set-square and ruler to draw a number of right angles.
10. Use your set-square and ruler to draw (a) a square where sides are 3 inches; (b) a rectangle, 4 inches long and 3 inches wide. How far is it round the square? How far is it round the rectangle?
11. Draw (a) a triangle having a right angle; (b) a triangle having an obtuse angle. Name the other angles in each figure.
12. On the card of a mariner's compass (see p. 4), the line joining North and South is at right angles to the line joining East and West. Draw these lines and put in N., S., E., W.

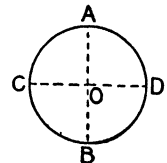


Fig. 1

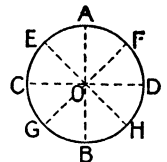


Fig. 2

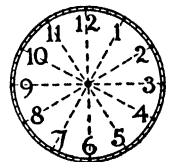


Fig. 3

## Exercise 32

### The Simple Rules

Add, in columns and rows:

	(a)		(b)		(c)
1.	37 + 65 + 121 =		372 + 384 + 35 =		359 + 759 =
2.	43 + 98 + 93 =		562 + 197 + 27 =		1,234 + 863 =
3.	91 + 34 + 116 =		173 + 169 + 119 =		757 + 1,275 =
4.	72 + 91 + 87 =		148 + 183 + 157 =		1,237 + 1,216 =
5. Totals	<u>      </u> + <u>      </u> + <u>      </u> =		<u>      </u> + <u>      </u> + <u>      </u> =		<u>      </u> + <u>      </u> =

	(a)	(b)	(c)	(d)	(e)	(f)
6.	2,091	6,351	1,219	2,163	3,127	2,139
	+ 1,876	+ 796	+ 729	+ 378	+ 597	+ 756
	+ 3,159	+ 103	+ 889	+ 457	+ 1,264	+ 1,347
	+ <u>1,199</u>	+ <u>1,827</u>	+ <u>5,216</u>	+ <u>2,719</u>	+ <u>1,345</u>	+ <u>2,179</u>

7. Find the sum of thirty-three, two thousand and one, one thousand nine hundred and thirty-six, and three thousand and fifty-seven.

	(a)	(b)	(c)	(d)	(e)	(f)
8.	3,745	6,352	9,348	3,627	5,001	7,311
	- <u>1,876</u>	- <u>6,293</u>	- <u>7,908</u>	- <u>787</u>	- <u>1,347</u>	- <u>2,324</u>

Subtract, in columns and rows. Check your answers.

	(a)		(b)		(c)
9.	7,234	1,639	5,311	2,176	7,316
10.	<u>3,549</u>	<u>739</u>	<u>2,164</u>	<u>1,378</u>	<u>3,167</u>
11.	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

12. Find the difference between three hundred and thirteen and four thousand and ten.

13. Multiply 89 by (a) 6; (b) 9; (c) 12; (d) 18; (e) 27; (f) 39; (g) 47.

	(a)	(b)	(c)	(d)	(e)	(f)
14.	38 × 23	75 × 39	95 × 27	108 × 41	179 × 43	225 × 39
15.	357 × 15	410 × 20	238 × 37	505 × 19	190 × 28	138 × 46
16.	305 × 19	437 × 17	176 × 40	360 × 20	138 × 39	95 × 76

17. Find the product of two hundred and nineteen and thirty-two.

	(a)	(b)	(c)	(d)	(e)	(f)
18.	4,473 ÷ 21	5,763 ÷ 51	9,703 ÷ 31	8,692 ÷ 41	6,844 ÷ 61	9,720 ÷ 81
19.	3,795 ÷ 33	4,902 ÷ 43	3,774 ÷ 34	2,574 ÷ 22	3,828 ÷ 33	5,280 ÷ 44
20.	1,273 ÷ 51	3,769 ÷ 67	4,326 ÷ 39	1,273 ÷ 21	4,326 ÷ 52	7,284 ÷ 93
21.	4,537 ÷ 21	5,736 ÷ 34	3,079 ÷ 35	2,698 ÷ 17	4,486 ÷ 57	2,017 ÷ 26

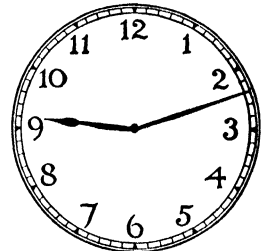
22. Find the quotient when two thousand three hundred and eleven is divided by fifty-four.

## Exercise 33

### The Clock. Time

1. How many (a) hours; (b) minutes from 12 o'clock to 2 o'clock; from 1 o'clock to 5 o'clock; from 3 o'clock to 10 o'clock; from 9 o'clock to 8 o'clock; from 6 o'clock to 3 o'clock?
2. How many minutes are there (a) from 2 o'clock to 10 min. past 4; (b) from 5 min. past 2 to 5 min. to 3; (c) from 3 min. past 12 to 5 min. to 1; (d) from 15 min. past 3 to 4 min. past 4?
3. How many hours are there (a) from 9 o'clock in the morning to 6 o'clock in the evening; (b) from 7 o'clock in the evening to 4 o'clock next morning; (c) from 8 o'clock Friday morning to 7 o'clock Sunday evening; (d) from 9 a.m. to 6 p.m. on the same day; (e) from 4 p.m. to 3 a.m. next day?
4. It is now 12 noon. What time was it (a)  $1\frac{3}{4}$  hours ago; (b) 35 min. ago; (c) 95 min. ago?
5. School starts at 9 in the morning and goes on till noon. In the afternoon it starts at half-past one and goes on till 4 o'clock. Write these times in the shortened form, showing *before noon* and *after noon* where necessary.
6. How many minutes are there (a) from 9 a.m. to 10.35 a.m. the same day; (b) from 9.5 p.m. to 6.30 a.m. next morning; (c) from 1.53 p.m. to 11.13 p.m. the same day?

Class Time Table. Morning Session							
	9	9.35	10.20	10.40	10.55	11.40	12
Monday	Scripture	Arithmetic	P.T.	Play-time	History	English	



7. Look at the Class Time-table. Now copy out and fill in the table below, for each lesson. Scripture has been done for you.

Lesson	Commences	Ends	Time it goes on
Scripture	9 a.m.	9.35 a.m.	35 minutes
Arithmetic			
P.T.			
Play			
etc., etc.			

8. A train leaves London at 11.55 p.m. and arrives Liverpool at 5.45 a.m. How long does it take?
9. The match commenced at 2.45 p.m. and finished at 4.25 p.m. How long did it take?
10. (a) What time does the clock face show? (b) what time did it show 17 minutes before? what time will it show after 1 hour 7 min. have passed?

## Exercise 34

### Money. Addition, Subtraction, and Division

#### A. ADDITION

1.  $7s. 6d. + 16s. 7d. + £1. 13s. 5d.$
2.  $16s. 9d. + £2. 7s. 9d. + 18s. 4d. + £17. 5s. 9d.$
3.  $£1. 13s. 7\frac{1}{2}d. + £1. 7s. 9\frac{1}{4}d. + 18s. 9d.$
4.  $£22. 13s. 7\frac{1}{4}d. + 17s. 9\frac{1}{2}d. + 7s. 6\frac{1}{4}d. + £11. 13s. 4\frac{1}{2}d.$
5.  $13s. 6d. + £2. 9s. 7d. + 18s. 4d. + £9. 5s. 4d.$
6.  $£14. 13s. 5d. + £19. 17s. 2d. + £11. 10s. 8d. + £12. 16s. 5d.$
7.  $£3. 18s. 11\frac{3}{4}d. + £19. 10s. 10\frac{1}{2}d. + 17s. 11\frac{1}{4}d. + £30. 0s. 0\frac{1}{2}d.$
8.  $£18. 13s. 9\frac{1}{4}d. + £13. 19s. 7\frac{3}{4}d. + £15. 13s. 9\frac{1}{2}d. + £23. 19s. 7\frac{3}{4}d.$
9. Find the value of  
 $357d. + 416 \text{ half-pence} + 135 \text{ threepences} + 215 \text{ half-crowns}.$

#### B. SUBTRACTION

1. (a)  $18s. 5\frac{1}{2}d. - 7s. 8\frac{3}{4}d.$  (c)  $£1. 16s. 5\frac{1}{2}d. - 19s. 7\frac{3}{4}d.$  (b)  $19s. 3d. - 9s. 7\frac{1}{2}d.$
2.  $£77. 12s. 3d. - £19. 18s. 7d.$  (b)  $£93. 14s. 7d. - £28. 17s. 8d.$   
 (c)  $£77. 14s. 3d. - £59. 16s. 5d.$
3.  $£90. 0s. 0d. - £74. 17s. 4\frac{3}{4}d.$  (b)  $£78. 15s. 3d. - £39. 14s. 9\frac{3}{4}d.$   
 (c)  $£80. 0s. 0\frac{1}{2}d. - £37. 1s. 11\frac{1}{4}d.$
4. (a)  $£94. 12s. 7\frac{1}{2}d. - £77. 17s. 8\frac{3}{4}d.$  (b)  $£93. 0s. 0d. - £57. 0s. 3\frac{1}{4}d.$   
 (c)  $£73. 15s. 6\frac{1}{4}d. - £49. 19s. 8\frac{1}{2}d.$
5. Find the value of  $(£3. 1s. 2\frac{1}{2}d. + 326 \text{ threepence}) - (273d. + 176 \text{ farthings}).$

#### C. DIVISION

- |                           |                                   |                                   |
|---------------------------|-----------------------------------|-----------------------------------|
| (a)                       | (b)                               | (c)                               |
| 1. $£49. 4s. 9d. \div 9$  | $£52. 3s. 4d. \div 8$             | $£78. 5s. 3d. \div 9$             |
| 2. $£58. 11s. 4d. \div 7$ | $£67. 17s. 6d. \div 5$            | $£59. 18s. 8d. \div 8$            |
| 3. $£81. 2s. 6d. \div 10$ | $£77. 2s. 9d. \div 11$            | $£1. 13s. 11\frac{1}{4}d. \div 9$ |
| 4. $£88. 6s. 0d. \div 12$ | $£10. 5s. 10\frac{1}{2}d. \div 9$ | $£15. 2s. 5\frac{1}{2}d. \div 7$  |
5. A dozen rugs cost  $£16. 2s.$  What must we pay for 5?

#### D. MISCELLANEOUS

1. What will  $1\frac{3}{4}$  lb. of tea cost at  $2\frac{1}{2}d.$  an oz.?
2. Tea is bought at  $2s. 3d.$  a lb. and sold at  $2s. 8d.$  a lb. Find the profit on 1 cwt. (112 lb.).
3. Change (a)  $£1. 7s. 6d.$  to pence; (b)  $12s. 4\frac{1}{2}d.$  to threepences; (c)  $£2. 10s.$  to half-crowns.
4. Eggs are bought at  $1s. 8d.$  a score and sold at  $1s. 6d.$  a dozen. Find the profit on 6 dozen.
5.  $220 \text{ threepences} + 115s. + 178 \text{ halfpence} + 213d.$
6. What is the difference between  $346d.$  and  $27 \text{ half-crowns}$ ?
7. (a) How many articles at  $1s.$  each can be bought for  $£23. 17s.$ ; at  $6d.$  each, for  $19s. 6d.$ ?
8. Find the difference between one-eighth of seventy-five pounds fifteen shillings and sixpence and one-quarter of fifteen pounds seventeen shillings and tenpence.
9. (a) 1 yard 1 ft. 1 inch at  $\frac{1}{2}d.$  an inch. (b) 1 gall. 1 qt. 1 pt. at  $3d.$  a pint.

## Exercise 35

### Reduction. Money

	(a)	(b)	(c)	(d)
1. Change to pence:	14s. 9d.	15s. 11d.	£1. 12s. 6d.	£2. 13s. 11d.
2. Change to halfpence:	7s. 8d.	5s. 7½d.	£1. 9s. 4½d.	£2. 3s. 6½d.
3. Change to farthings:	5s. 2¼d.	7s. 4¾d.	£1. 3s. 3¼d.	£2. 5s. 7¾d.
4. Change to threepences:	6s. 3d.	17s. 9d.	£1. 3s. 3d.	£2. 7s. 9d.
5. Change to sixpences:	12s. 6d.	19s. 0d.	£1. 3s. 6d.	£2. 7s. 0d.
6. Change to threehalfpences:	5s. 3d.	7s. 6d.	£1. 2s. 3d.	£2. 5s. 10½d.

123; 279; 376; 436; 673; 963; 1,000.

7. Call the numbers (above) pence and change to *s. d.*, or *£. s. d.*
8. Call the numbers halfpence and change to *s. d.*, or *£. s. d.*
9. Call the numbers farthings and change to *s. d.*, or *£. s. d.*
10. Call the numbers threehalfpences and change to *s. d.*, or *£. s. d.*
11. Call the numbers threepences and change to *s. d.*, or *£. s. d.*
12. Call the numbers sixpences and change to *s. d.*, or *£. s. d.*
13. Call the numbers half-crowns and change to *£. s. d.* (Leave out 963, and 1,000.)

### MISCELLANEOUS EXERCISES

14. Find the difference between 379 pence and 379 threehalfpences.
15. Find the cost of (a) 796 at ½*d.* each; (b) 479 at threepence each; (c) 1,231 at ¼*d.* each.
16. 379*d.* + 189 halfpence + 59 threepences + 100 sixpences.
17. How many articles at 2s. 6*d.* each can I buy for £2. 17s. 6*d.*?
18. What will 1,200 articles cost at ¼*d.* each?
19. 300 halfpenny stamps + 400 penny stamps + 315 threehalfpenny stamps.  
Find the total cost.
20. Find the change out of £5 after buying 373 twopenny stamps.
21. 345 sixpences — 345 threepences.
22. 1,000 threehalfpences — 1,000 pence.

## Exercise 36

### Money. Long Multiplication

	(a)	(b)	(c)	(d)	(e)	(f)
1. Multiply £2. 13s. by	7	8	9	10	11	12
2. Multiply 1s. 10d. by	7	8	9	10	11	12
3. Multiply 1s. 1d. by	13	14	15	16	17	18
4. Multiply 1s. 3d. by	16	18	21	33	27	31
5. Multiply 2s. 8d. by	20	23	26	29	31	35
6. Multiply 3s. 4d. by	18	21	27	30	33	36
7. Multiply 4s. 7d. by	17	19	22	26	29	31
8. Multiply 3s. 11d. by	19	21	25	29	33	36

9. (a)  $\frac{1}{4}d. \times 19$ ; (b)  $\frac{1}{2}d. \times 33$ ; (c)  $\frac{3}{4}d. \times 35$ ; (d)  $1d. \times 43$ ; (e)  $1\frac{1}{2}d. \times 21$ .

10. (a)  $1\frac{1}{4}d. \times 19$ ; (b)  $1\frac{1}{2}d. \times 33$ ; (c)  $1\frac{3}{4}d. \times 35$ ; (d)  $2\frac{1}{4}d. \times 43$ ; (e)  $2\frac{1}{2}d. \times 34$ .

11. (a)  $2\frac{1}{4}d. \times 21$ ; (b)  $2\frac{1}{2}d. \times 35$ ; (c)  $2\frac{3}{4}d. \times 41$ ; (d)  $3\frac{1}{4}d. \times 37$ ; (e)  $3\frac{1}{2}d. \times 73$ .

12. (a)  $4\frac{1}{2}d. \times 31$ ; (b)  $3\frac{1}{4}d. \times 43$ ; (c)  $4\frac{3}{4}d. \times 27$ ; (d)  $5\frac{1}{2}d. \times 53$ ; (e)  $5\frac{1}{4}d. \times 55$ .

13. (a)  $7\frac{1}{2}d. \times 31$ ; (b)  $5\frac{3}{4}d. \times 43$ ; (c)  $9\frac{1}{2}d. \times 34$ ; (d)  $7\frac{3}{4}d. \times 41$ ; (e)  $6\frac{1}{2}d. \times 49$ .

14. (a) 1s.  $1\frac{1}{2}d. \times 21$ ; (b) 1s.  $6\frac{1}{2}d. \times 32$ ; (c) 2s.  $2\frac{1}{4}d. \times 17$ ; (d) 2s.  $3\frac{3}{4}d. \times 14$ ;  
(e) 3s.  $1\frac{1}{4}d. \times 31$ .

15. (a) 1s.  $2\frac{1}{4}d. \times 19$ ; (b) 2s.  $1\frac{3}{4}d. \times 18$ ; (c) 3s.  $2\frac{1}{2}d. \times 21$ ; (d) 3s.  $3\frac{3}{4}d. \times 19$ ;  
(e) 2s.  $6\frac{1}{4}d. \times 23$ .

16. (a) 1s.  $3\frac{1}{2}d. \times 18$ ; (b) 3s.  $2\frac{1}{4}d. \times 19$ ; (c) 4s.  $1\frac{1}{4}d. \times 25$ ; (d) 1s.  $7\frac{1}{4}d. \times 21$ ;  
(e) 3s.  $3\frac{1}{2}d. \times 19$ .

17. Find the cost of 27 articles at 1s. 3d. each.

18. A National Savings Certificate costs 16s. What must be paid for 15?

19. Father is paid at the rate of 2s.  $1\frac{1}{2}d.$  an hour. How much does he earn in a week of 47 hours?

20. Find the cost of 31 toys at  $6\frac{1}{2}d.$  each.

21. Milk is  $3\frac{1}{2}d.$  a pint. What must be paid for 25 pints?

22. Writing pads are  $10\frac{1}{2}d.$  each. Find the cost of 21.

23. What must be paid for 26 stamps at 1s. 5d. each?

24. Tobacco is  $9\frac{1}{2}d.$  an oz. How much is that per lb.?

## Exercise 37

### Shopping

#### TO-DAY'S PRICES

##### The Baker's List

Bread: White loaf,  $4\frac{1}{2}d.$  each.  
 Bread: Brown or white cob,  $2d.$  each.  
 Bread: Plum  $\left\{ \begin{array}{l} \text{small loaf, } 9d. \text{ each.} \\ \text{large loaf, } 1s. 6d. \text{ each.} \end{array} \right.$   
 Small cakes (fancies),  $1d.$  each.  
 Slab cake, per lb.,  $9d.$   
 Pastries:  $1d.$  each or 7 for  $6d.$   
 Flour, per 14 lb.,  $1s. 10d.$

##### The Chandler's List

Soap  $\left\{ \begin{array}{l} \text{Sunlight, per lb., } 5\frac{1}{2}d. \\ \text{Lifebuoy, per 12 oz., } 5d. \end{array} \right.$   
 Rinso  $\left\{ \begin{array}{l} \text{per small packet, } 3\frac{1}{2}d. \\ \text{per large packet, } 10d. \end{array} \right.$   
 Vim  $\left\{ \begin{array}{l} \text{per packet, } 2d. \\ \text{per tin, } 6d. \end{array} \right.$   
 Metal polish, per tin,  $7\frac{1}{2}d.$   
 Washing soda, per 14 lb.,  $1s.$   
 Furniture cream, per bottle,  $4\frac{1}{2}d.$   
 Paraffin, per qt.,  $3d.$ ; per gall.,  $11d.$

Work the sums below, taking the prices from "the list". Find the total in each case.

1. 2 white loaves.  
 1 small loaf, plum-bread.  
 14 pastries.  
 5 brown cobs.
2.  $1\frac{1}{2}$  dozen small cakes.  
 $\frac{1}{2}$  lb. of slab cake.  
 3 white loaves.  
 1 large loaf, plum-bread.
3. Monday: 3 white loaves.  
 Tuesday: 7 lb. flour.  
 Wednesday: 14 pastries.  
 Thursday: 2 white loaves.  
 Friday: 3 cobs (brown).  
 Saturday:  $\left\{ \begin{array}{l} 4 \text{ white loaves.} \\ \frac{1}{2} \text{ lb. slab cake.} \\ 3\frac{1}{2} \text{ lb. flour.} \end{array} \right.$
4. Monday: 4 white loaves.  
 Tuesday:  $3\frac{1}{2}$  lb. flour.  
 Wednesday: 7 pastries and 2 cobs.  
 Thursday: 3 white loaves.  
 Friday:  $1\frac{1}{2}$  dozen small cakes.  
 Saturday:  $\left\{ \begin{array}{l} 5 \text{ white loaves.} \\ 7 \text{ lb. of flour.} \\ 1\frac{1}{2} \text{ lb. slab cake.} \end{array} \right.$
5. 3 small packets of Rinso.  
 1 tin of metal polish.  
 $3\frac{1}{2}$  lb. of washing soda.  
 1 qt. of paraffin.  
 3 bars of Lifebuoy soap (12 oz.)
6. 2 large packets of Rinso.  
 3 bottles of furniture cream.  
 2 tins of metal polish.  
 2 lb. of Sunlight soap.  
 $\frac{1}{2}$  gall. of paraffin.
7. 3 pints of paraffin.  
 21 lb. of washing soda.  
 3 lb. of Sunlight soap.  
 2 tins of metal polish.  
 3 packets of Vim.  
 3 small packets of Rinso.
8. 4 bars of Lifebuoy soap (12 oz.).  
 $1\frac{1}{2}$  gall. of paraffin.  
 3 bottles of furniture cream.  
 $10\frac{1}{2}$  lb. of washing soda.  
 3 tins of metal polish.  
 5 small packets of Rinso.

## Exercise 38

### Weights and Measures. Addition and Subtraction

#### A. LENGTH

- |   | (a)  | (b)                        | (c)                  | (d)               |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
|---|--|----------------------------|----------------------|-------------------|---|---|---|---|--|--|------------|------------|---|---|---|---|---|--|--|------------|------------|---|---|---|---|---|--|--|------------|------------|------------|---|---|---|---|---|---|--|--|--|
| 1. Change to inches:  | 3 ft. 7 in.  | 1 ft. 10 $\frac{1}{2}$ in. | 1 yd. 2 ft.          | 2 yd. 1 ft. 5 in. |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 2. Change to ft. and in.:   | 59 in.   | 73 in.                     | 49 $\frac{1}{4}$ in. | 117 in.           |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 3. Change to yd. ft. and in.:   | 73 in.   | 91 in.                     | 87 in.               | 131 in.           |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 4. First add; then take away:   | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>ft.</i></td><td style="text-align: left;"><i>in.</i></td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">7</td></tr> <tr><td style="text-align: center;">1</td><td style="text-align: center;">9</td></tr> <tr><td colspan="2" style="text-align: center;"><hr style="width: 50%; margin: 0 auto;"/></td></tr> </table> | <i>ft.</i>                 | <i>in.</i>           | 3                 | 7 | 1 | 9 | <hr style="width: 50%; margin: 0 auto;"/> |  | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>ft.</i></td><td style="text-align: left;"><i>in.</i></td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">5</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">7</td></tr> <tr><td colspan="2" style="text-align: center;"><hr style="width: 50%; margin: 0 auto;"/></td></tr> </table> | <i>ft.</i> | <i>in.</i> | 5 | 5 | 3 | 7 | <hr style="width: 50%; margin: 0 auto;"/> |  | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>yd.</i></td><td style="text-align: left;"><i>ft.</i></td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">0</td></tr> <tr><td style="text-align: center;">1</td><td style="text-align: center;">2</td></tr> <tr><td colspan="2" style="text-align: center;"><hr style="width: 50%; margin: 0 auto;"/></td></tr> </table> | <i>yd.</i> | <i>ft.</i> | 3 | 0 | 1 | 2 | <hr style="width: 50%; margin: 0 auto;"/> |  | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>yd.</i></td><td style="text-align: left;"><i>ft.</i></td><td style="text-align: left;"><i>in.</i></td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">1</td><td style="text-align: center;">5</td></tr> <tr><td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">7</td></tr> <tr><td colspan="3" style="text-align: center;"><hr style="width: 100%; margin: 0 auto;"/></td></tr> </table> | <i>yd.</i> | <i>ft.</i> | <i>in.</i> | 2 | 1 | 5 | 1 | 2 | 7 | <hr style="width: 100%; margin: 0 auto;"/> |  |  |
| <i>ft.</i>  | <i>in.</i>   |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 3   | 7  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 1   | 9  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| <hr style="width: 50%; margin: 0 auto;"/>   |  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| <i>ft.</i>  | <i>in.</i>   |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 5   | 5  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 3   | 7  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| <hr style="width: 50%; margin: 0 auto;"/>   |  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| <i>yd.</i>  | <i>ft.</i>   |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 3   | 0  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 1   | 2  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| <hr style="width: 50%; margin: 0 auto;"/>   |  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| <i>yd.</i>  | <i>ft.</i>   | <i>in.</i>                 |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 2   | 1  | 5                          |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 1   | 2  | 7                          |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| <hr style="width: 100%; margin: 0 auto;"/>  |  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 5. Find the difference between 3 yd. 1 ft. 2 in. and 7 yd. 0 ft. 1 in.  |  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 6. Silver wire is 10 $\frac{1}{2}$ d. an inch. Find the cost of 1 yd. 1 ft. 3 in. of wire.  |  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 7. A 60-inch tape measure was cut into 2 pieces. One piece was 2 ft. 11 in. long. Find the length of the other piece.                                 |  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |
| 8. A grass plot is 6 yd. 2 ft. long and 4 yd. 2 ft. 3 in. wide. Find (a) the difference between the length and the width; (b) the distance all round. |  |                            |                      |                   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |   |   |   |   |   |  |  |            |            |            |   |   |   |   |   |   |  |  |  |

#### B. WEIGHT

- |  | (a)  | (b)            | (c)            | (d)                          |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
|--|--|----------------|----------------|------------------------------|----|---|----|---|--|--|-------------|-------------|---|----|---|----|---|--|--|-------------|-------------|----|----|---|----|---|--|--|-------------|-------------|----|---|----|----|---|--|
| 1. Change to oz.:  | 1 lb. 7 oz.  | 2 lb. 9 oz.    | 7 lb. 11 oz.   | 5 lb. 13 $\frac{1}{4}$ oz.   |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 2. Change to lb. oz.:  | 73 oz.   | 81 oz.         | 101 oz.        | 121 oz.                      |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 3. Change to cwt.:   | 1 ton 7 cwt.   | 2 tons 11 cwt. | 4 tons 19 cwt. | 7 tons 11 $\frac{1}{2}$ cwt. |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 4. Change to tons and cwt.:  | 31 cwt.  | 49 cwt.        | 119 cwt.       | 217 cwt.                     |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 5. First add; then take away:  | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>lb.</i></td><td style="text-align: left;"><i>oz.</i></td></tr> <tr><td style="text-align: center;">11</td><td style="text-align: center;">5</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">12</td></tr> <tr><td colspan="2" style="text-align: center;"><hr style="width: 50%; margin: 0 auto;"/></td></tr> </table>   | <i>lb.</i>     | <i>oz.</i>     | 11                           | 5  | 3 | 12 | <hr style="width: 50%; margin: 0 auto;"/> |  | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>lb.</i></td><td style="text-align: left;"><i>oz.</i></td></tr> <tr><td style="text-align: center;">9</td><td style="text-align: center;">12</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">13</td></tr> <tr><td colspan="2" style="text-align: center;"><hr style="width: 50%; margin: 0 auto;"/></td></tr> </table>   | <i>lb.</i>  | <i>oz.</i>  | 9 | 12 | 5 | 13 | <hr style="width: 50%; margin: 0 auto;"/> |  | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>lb.</i></td><td style="text-align: left;"><i>oz.</i></td></tr> <tr><td style="text-align: center;">13</td><td style="text-align: center;">12</td></tr> <tr><td style="text-align: center;">9</td><td style="text-align: center;">15</td></tr> <tr><td colspan="2" style="text-align: center;"><hr style="width: 50%; margin: 0 auto;"/></td></tr> </table>  | <i>lb.</i>  | <i>oz.</i>  | 13 | 12 | 9 | 15 | <hr style="width: 50%; margin: 0 auto;"/> |  | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>lb.</i></td><td style="text-align: left;"><i>oz.</i></td></tr> <tr><td style="text-align: center;">17</td><td style="text-align: center;">8</td></tr> <tr><td style="text-align: center;">13</td><td style="text-align: center;">9</td></tr> <tr><td colspan="2" style="text-align: center;"><hr style="width: 50%; margin: 0 auto;"/></td></tr> </table>   | <i>lb.</i>  | <i>oz.</i>  | 17 | 8 | 13 | 9  | <hr style="width: 50%; margin: 0 auto;"/> |  |
| <i>lb.</i>   | <i>oz.</i>   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 11   | 5  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 3  | 12   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <hr style="width: 50%; margin: 0 auto;"/>  |  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <i>lb.</i>   | <i>oz.</i>   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 9  | 12   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 5  | 13   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <hr style="width: 50%; margin: 0 auto;"/>  |  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <i>lb.</i>   | <i>oz.</i>   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 13   | 12   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 9  | 15   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <hr style="width: 50%; margin: 0 auto;"/>  |  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <i>lb.</i>   | <i>oz.</i>   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 17   | 8  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 13   | 9  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <hr style="width: 50%; margin: 0 auto;"/>  |  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 6. First add; then take away:  | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>tons</i></td><td style="text-align: left;"><i>cwt.</i></td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">11</td></tr> <tr><td style="text-align: center;">1</td><td style="text-align: center;">13</td></tr> <tr><td colspan="2" style="text-align: center;"><hr style="width: 50%; margin: 0 auto;"/></td></tr> </table> | <i>tons</i>    | <i>cwt.</i>    | 2                            | 11 | 1 | 13 | <hr style="width: 50%; margin: 0 auto;"/> |  | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>tons</i></td><td style="text-align: left;"><i>cwt.</i></td></tr> <tr><td style="text-align: center;">7</td><td style="text-align: center;">10</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">11</td></tr> <tr><td colspan="2" style="text-align: center;"><hr style="width: 50%; margin: 0 auto;"/></td></tr> </table> | <i>tons</i> | <i>cwt.</i> | 7 | 10 | 3 | 11 | <hr style="width: 50%; margin: 0 auto;"/> |  | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>tons</i></td><td style="text-align: left;"><i>cwt.</i></td></tr> <tr><td style="text-align: center;">11</td><td style="text-align: center;">3</td></tr> <tr><td style="text-align: center;">9</td><td style="text-align: center;">17</td></tr> <tr><td colspan="2" style="text-align: center;"><hr style="width: 50%; margin: 0 auto;"/></td></tr> </table> | <i>tons</i> | <i>cwt.</i> | 11 | 3  | 9 | 17 | <hr style="width: 50%; margin: 0 auto;"/> |  | <table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: right;"><i>tons</i></td><td style="text-align: left;"><i>cwt.</i></td></tr> <tr><td style="text-align: center;">13</td><td style="text-align: center;">7</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">12</td></tr> <tr><td colspan="2" style="text-align: center;"><hr style="width: 50%; margin: 0 auto;"/></td></tr> </table> | <i>tons</i> | <i>cwt.</i> | 13 | 7 | 3  | 12 | <hr style="width: 50%; margin: 0 auto;"/> |  |
| <i>tons</i>  | <i>cwt.</i>  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 2  | 11   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 1  | 13   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <hr style="width: 50%; margin: 0 auto;"/>  |  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <i>tons</i>  | <i>cwt.</i>  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 7  | 10   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 3  | 11   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <hr style="width: 50%; margin: 0 auto;"/>  |  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <i>tons</i>  | <i>cwt.</i>  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 11   | 3  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 9  | 17   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <hr style="width: 50%; margin: 0 auto;"/>  |  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <i>tons</i>  | <i>cwt.</i>  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 13   | 7  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 3  | 12   |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| <hr style="width: 50%; margin: 0 auto;"/>  |  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 7. Find the cost of 2 tons 10 cwt. of coal at 1s. 10d. per cwt.  |  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 8. My coal-shed will hold 5 tons of coal. I purchase 1 $\frac{3}{4}$ tons from one coal dealer and 2 $\frac{1}{2}$ tons from another. How much more coal is needed to fill the shed? |  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |
| 9. John weighs 4 stones 6 lb. and his sister May weighs 3 stones 10 lb. Find (a) the difference between their weights; (b) the sum of their weights. (14 lb. = 1 stone weight.)      |  |                |                |                              |    |   |    |   |  |  |             |             |   |    |   |    |   |  |  |             |             |    |    |   |    |   |  |  |             |             |    |   |    |    |   |  |

## Exercise 39

### Weights and Measures (cont.). Addition and Subtraction

#### A. CAPACITY

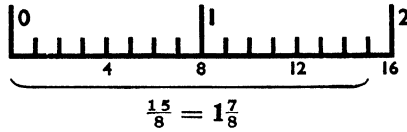
- |                                 | (a)                      | (b)                      | (c)                      | (d)                          |
|---------------------------------|--------------------------|--------------------------|--------------------------|------------------------------|
| 1. Change to pints:             | 1 qt. 1 pt.              | 3 qt. 1 pt.              | 1 gall. 1 pt.            | 2 gall. 3 qt. 1 pt.          |
| 2. Change to qt. and pt.:       | 7 pt.                    | 11 pt.                   | 33 pt.                   | 57 pt.                       |
| 3. Change to gall. and qt.:     | 13 qt.                   | 27 qt.                   | 31 qt.                   | 59 qt.                       |
| 4. Change to gall. qt. and pt.: | 37 pt.                   | 49 pt.                   | 53 pt.                   | 87 pt.                       |
|                                 | <i>qt. pt.</i>           | <i>qt. pt.</i>           | <i>gall. qt.</i>         | <i>gall. qt. pt.</i>         |
| 5. First add; then subtract:    | <u>4 1</u><br><u>3 1</u> | <u>7 0</u><br><u>3 1</u> | <u>7 1</u><br><u>3 3</u> | <u>7 1 0</u><br><u>3 2 1</u> |
6. A milkman served 117 people, each with 1 pint of milk, 93 people, each with 1 quart and had 1 gall. 1 pt. left. How much milk had he at first?
7. One cask contains 12 gall. 1 qt. of vinegar and another contains 11 gall. 2 qt. 1 pt. Find (a) the quantity of vinegar in the two casks; (b) the difference in quantity they contain.

#### B. TIME

- |                              | (a)                         | (b)                          | (c)                        | (d)                          |
|------------------------------|-----------------------------|------------------------------|----------------------------|------------------------------|
| 1. Change to min.:           | 1 hr. 35 min.               | 3 hr. 12 min.                | 4 hr. 45 min.              | 5¼ hr.                       |
| 2. Change to hr. and min:    | 127 min.                    | 216 min.                     | 372 min.                   | 519 min.                     |
| 3. Change to hours:          | 1 dy. 17 hr.                | 2 dy. 11 hr.                 | 3 dy. 19 hr.               | 4 dy. 23 hr.                 |
| 4. Change to dy. and hr.:    | 111 hr.                     | 157 hr.                      | 231 hr.                    | 317 hr.                      |
| 5. Change to days:           | 3 wk. 2 dy.                 | 5 wk. 6 dy.                  | 12 wk. 4 dy.               | 13 wk. 5 dy.                 |
| 6. Change to wk. and days:   | 37 dy.                      | 50 dy.                       | 112 dy.                    | 137 dy.                      |
|                              | <i>hr. min.</i>             | <i>hr. min.</i>              | <i>dy. hr.</i>             | <i>dy. hr.</i>               |
| 7. First add; then subtract: | <u>17 21</u><br><u>7 23</u> | <u>21 43</u><br><u>15 52</u> | <u>7 17</u><br><u>2 18</u> | <u>11 12</u><br><u>7 20</u>  |
|                              | <i>wk. dy.</i>              | <i>wk. dy.</i>               | <i>wk. dy.</i>             | <i>dy. hr.</i>               |
| 8. First add; then subtract: | <u>11 3</u><br><u>2 5</u>   | <u>21 5</u><br><u>17 6</u>   | <u>19 4</u><br><u>13 5</u> | <u>23 11</u><br><u>17 21</u> |
9. The 10.35 a.m. train arrived at 1 p.m. How many hours and minutes did it take?
10. Jane went to bed at 9 p.m. and slept until 7.30 a.m. next morning. How long was that?
11. (a) How many hours are there in 1 week? (b) How many hours are there in the month of June?
12. School commences at 9 and goes on until noon. Then there are 1½ hours for dinner before the afternoon school begins. Afternoon school ends at 4 p.m. How many hours and minutes are there in a school day?

## Exercise 40

### Fractions and Work in Fractions



- Examine the diagram. Then test the following, using your ruler:  $\frac{7}{4} = 1\frac{3}{4}$ ;  $\frac{9}{2} = 4\frac{1}{2}$ ;  $\frac{9}{8} = 1\frac{1}{8}$ .
- Write in another form: (a)  $\frac{3}{2}$ ,  $\frac{7}{3}$ ,  $\frac{13}{8}$ ,  $\frac{9}{4}$ ,  $\frac{7}{5}$ ,  $\frac{11}{9}$ ,  $\frac{7}{6}$ ; (b)  $1\frac{2}{3}$ ,  $2\frac{1}{2}$ ,  $1\frac{3}{8}$ ,  $1\frac{1}{3}$ ,  $1\frac{1}{9}$ ,  $1\frac{5}{6}$ ,  $3\frac{1}{3}$ .

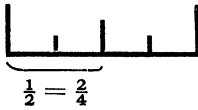


Fig. 1.

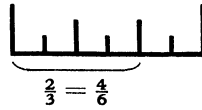
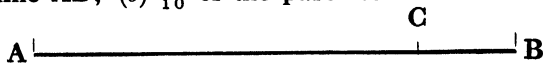


Fig. 2.

- Examine figs. 1 and 2. Then test the following (you may use your ruler):  $\frac{1}{4} = \frac{3}{12}$ ;  $\frac{2}{3} = \frac{4}{6}$ ;  $\frac{6}{12} = \frac{3}{6} = \frac{1}{2}$ .
- Fill in the missing figures:  $\frac{6}{12} = \frac{?}{2}$ ;  $\frac{9}{12} = \frac{?}{4}$ ;  $\frac{3}{12} = \frac{?}{4}$ ;  $\frac{2}{6} = \frac{?}{3}$ ;  $\frac{6}{8} = \frac{?}{4}$ ;  $\frac{4}{8} = \frac{?}{2}$ ;  $\frac{2}{8} = \frac{?}{4}$ .
- How many sixths in  $\frac{1}{3}$ ; in  $\frac{1}{2}$ ; in  $\frac{1}{3} + \frac{1}{2}$ ; in  $\frac{1}{2} - \frac{1}{3}$ ?
- How many eighths in  $\frac{1}{2}$ ; in  $\frac{1}{4}$ ; in  $\frac{1}{8}$ ; in  $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$ ; in  $\frac{1}{2} - \frac{1}{8}$ ?
- Change to twelfths and add: (a)  $\frac{1}{2}$ ,  $\frac{7}{12}$ ; (b)  $\frac{2}{3}$ ,  $\frac{5}{12}$ ; (c)  $\frac{3}{4}$ ,  $\frac{1}{6}$ ; (d)  $\frac{1}{4}$ ,  $\frac{5}{6}$ .
- (a)  $\frac{1}{2} + \frac{3}{8}$ ; (b)  $\frac{1}{3} + \frac{1}{4}$ ; (c)  $\frac{3}{4} + \frac{1}{2}$ ; (d)  $\frac{1}{2} + \frac{2}{3}$ ; (e)  $\frac{5}{6} + \frac{1}{2}$ ; (f)  $\frac{3}{4} - \frac{2}{3}$ ; (g)  $\frac{5}{6} - \frac{7}{12}$ .
- (a) Change to eighths and add:  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ; (b) change to sixths and add:  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{6}$ .

ONE WHOLE									
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

- How many tenths in  $\frac{1}{5}$ ,  $\frac{2}{5}$ ,  $\frac{3}{5}$ ,  $\frac{4}{5}$ ,  $\frac{1}{2}$ ?
- Change to tenths and add: (a)  $\frac{1}{5}$ ,  $\frac{1}{10}$ ; (b)  $\frac{2}{5}$ ,  $\frac{1}{10}$ ; (c)  $\frac{3}{5}$ ,  $\frac{3}{10}$ ; (d)  $\frac{1}{5}$ ,  $\frac{7}{10}$ .
- Find (a)  $\frac{3}{5}$  of line AB; (b)  $\frac{3}{10}$  of the part AC.



- What part of the whole line is (a) CB; (b) AC?
- Change to twelfths and then arrange the fractions in order of value, putting the smallest first: (a)  $\frac{2}{3}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$ ; (b)  $\frac{3}{4}$ ,  $\frac{5}{6}$ ,  $\frac{2}{3}$ ; (c)  $\frac{1}{4}$ ,  $\frac{1}{3}$ ,  $\frac{1}{6}$ ; (d)  $\frac{7}{12}$ ,  $\frac{2}{3}$ ,  $\frac{3}{4}$ ,  $\frac{1}{2}$ ,  $\frac{5}{6}$ .
- Find (a)  $\frac{1}{3}$ ; (b)  $\frac{3}{10}$ ; (c)  $\frac{1}{2}$ ; (d)  $\frac{3}{4}$  of 6 tons.
- Find (a)  $\frac{1}{3}$ ; (b)  $\frac{7}{10}$ ; (c)  $\frac{1}{2}$ ; (d)  $\frac{3}{8}$ ; (e)  $\frac{3}{4}$ ; (f)  $\frac{2}{3}$ ; (g)  $\frac{5}{12}$  of £3. 10s.

## Exercise 41

### Revision

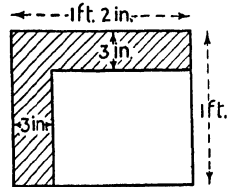
- Write answers only: (a)  $12 \times 11$ ; (b)  $13 + 17 + 25$ ; (c)  $100 - 29$ ; (d)  $129d.$ ; (e)  $\pounds 1 - 13s. 7\frac{1}{2}d.$ ; (f) 91 farthings; (g) 3 score  $-$  3 dozen; (h)  $131 \times 70$ ; (k) 3 dozen at  $3\frac{1}{2}d.$  each; (l) 1 ton at  $1s. 9d.$  a cwt.
- From nine thousand and nine take two thousand and seventy-nine.
- Father is paid at the rate of  $1s. 6d.$  an hour. How many hours must he work to earn  $\pounds 1. 10s.$ ?
- Count by elevenpences from  $3s. 9d.$  to  $11s. 10d.$  Set your work out, as:  $3s. 9d., 4s. 8d., 5s. 7d.,$  etc.
- Wireless sets are bought at  $\pounds 3. 11s. 6d.$  and sold at  $\pounds 4. 10s.$  Find the profit on 11 sets bought and sold.
- Add the sum of 3,211 and 1,919 to their difference.
- Tom left home at 2.20 p.m. and returned  $1\frac{3}{4}$  hours later. What was the time when he arrived home?
- (a)  $79 \times 36$ ; (b)  $1,745 \div 37$ ; (c)  $129 \times 23$ ; (d)  $7,413 \div 54$ ; (e)  $9,001 - 7,223.$
- (a)  $\pounds 1. 1s. 3d. \times 12$ ; (b)  $1s. 9d. \times 23$ ; (c)  $1s. 8\frac{1}{4}d. \times 56$ ; (d)  $1s. 2\frac{1}{2}d. \times 21.$
- Find the change out of  $\pounds 5$  after paying for 12 articles at  $7s. 11\frac{1}{2}d.$  each.
- A rectangle measures  $5\frac{1}{2}$  inches by  $3\frac{1}{4}$  inches. Find (a) the difference between the length and the breadth; (b) the distance all round (ft. and in.).
- If 5 chairs cost  $\pounds 4. 11s. 3d.,$  what would 9 chairs cost?
- (a)  $\frac{5}{8} + \frac{1}{2}$ ; (b)  $1\frac{1}{2} + \frac{3}{8}$ ; (c)  $\frac{7}{8} - \frac{1}{4}$ ; (d)  $1\frac{2}{3} + \frac{1}{2}$ ; (e)  $\frac{5}{6} - \frac{7}{12}.$
- (a)  $2\frac{1}{4}$  lb. at  $1d.$  an oz. (b) 3 gall. 1 qt. at  $3\frac{1}{2}d.$  a pint.
- Find  $\frac{1}{8}$  of  $(3,216 + 1,739 - 979).$
- (a) 1 ft. 7 in. + 2 ft. 3 in. + 1 yd. 1 ft. 8 in. (b) 1 yd. 2 ft. 3 in.  $-$  2 ft. 7 in.
- (a) 7 lb. 6 oz. + 4 lb. 13 oz. + 7 oz. (b) 13 gall. 2 qt.  $-$  5 gall. 3 qt.
- (a)  $7,315 \div 60$ ; (b)  $121 \times 70$ ; (c)  $3,246 \div 200.$
- $\pounds 13. 5s. 3\frac{1}{2}d. + \pounds 11. 19s. 4\frac{1}{2}d. + \pounds 9. 11s. 7\frac{3}{4}d. + \pounds 7. 13s. 5\frac{3}{4}d.$
- 34 stamps at  $3d.$  each + 115 at  $\frac{1}{2}d.$  each + 92 at  $1\frac{1}{2}d.$  each + 131 at  $1d.$  each.
- Write in another form: (a)  $\frac{7}{4}$ ; (b)  $\frac{19}{8}$ ; (c)  $\frac{7}{2}$ ; (d)  $\frac{13}{6}$ ; (e)  $\frac{11}{3}$ ; (f)  $\frac{12}{5}.$
- A greengrocer bought 8 gross of bananas at  $4s. 6d.$  a gross. He sold  $\frac{1}{2}$  of them at  $9d.$  a dozen and the other half at 9 for  $1s.$  How much profit did he make?

## Exercise 42

### Revision

1. (a) 5 yd. 2 ft. + 2 yd. 1 ft. + 3 yd. 2 ft.    (b) 5 yd. 1 ft. - 3 yd. 2 ft.
2. (a) 3 gall. 3 qt. + 7 qt. + 1 qt. 1 pt.    (b) 13 wk. 2 dy. - 7 wk. 5 dy.
3. (a) 2 st. 10 lb. + 1 st. 12 lb.    (b) 11 st. 3 lb. - 7 st. 13 lb.
4. (a) 17 tons 15 cwt. - 5 tons 16 cwt.    (b) 7 dy. 4 hr. - 3 dy. 20 hr.
5. A table top measures 6 ft. by 4 ft. Find (a) its area in sq. ft.; (b) the distance round, in yd. and ft.
6. (a)  $2,179 + 3,016 + 179 + 1,009$ ; (b)  $7,070 - 2,558$ ; (c)  $172 \times 43$ .
7. (a)  $2,759 \div 39$ ; (b) £13. 0s. 7d. - 17s. 8½d.; (c) 2s. 5d.  $\times$  27.
8. (a) What will 2½ lb. of tea cost at 8d. a ¼ lb.? (b) 1,000 envelopes at 25 for 2½d.?
9. Draw an oblong to show an orchard 15 yards wide and 4 times as long as it is broad. Use squared paper. How many steps would a man take in walking all round the orchard, if his step measured 2 feet?
10. 315d. + 127 halfpence + 93 threehalfpence - 73 threepences.
11. Eggs are bought at 1s. 3d. a score and sold at 1s. 2d. a dozen. Find the profit on 120 bought and sold.
12. Mother gives the shopman a £1 note to pay for the following: ¾ lb. bacon at 1s. 2d. a lb.; 1¼ lb. butter at 1s. 6d. a lb.; 2 tins of salmon at 10½d. a tin; ¾ lb. lard at 8d., and ½ a gall. of vinegar at 3d. a pint. What change does she get?
13. What do the following stand for: XXIV, IX, XCIII, LXXXVI, and LX?
14. (a) 1,000 threehalfpence - 1,000 pence. (Answer in £ s. d.)
15. (a)  $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$ ; (b)  $\frac{1}{3} + \frac{1}{2} + \frac{1}{6}$ ; (c)  $1\frac{7}{8} - 1\frac{1}{2}$ ; (d)  $2\frac{3}{4} - 1\frac{1}{2}$ .

16. Find the area of the shaded portion in the diagram.



17. Measure the lines in inches and tenths.

A       B

C

D

## Exercise 43

### Mental Arithmetic

Write answers only.

- How many farthings in  $5\frac{1}{2}d.$ ;  $7\frac{1}{4}d.$ ;  $9\frac{1}{2}d.$ ;  $11\frac{3}{4}d.$ ;  $1s. 1\frac{1}{2}d.$ ;  $1s. 6\frac{1}{4}d.$ ;  $1s. 9\frac{3}{4}d.$ ?
- How many pence in  $4s. 2d.$ ;  $5s. 9d.$ ;  $7s. 11d.$ ;  $9s. 3d.$ ;  $12s. 6d.$ ;  $13s. 9d.$ ;  $15s. 11d.$ ?
- (a) 2 dozen at  $1\frac{1}{2}d.$  each; (b) 9 at  $7\frac{1}{2}d.$  each; (c) 54 at  $1s. 2d.$  a dozen.
- (a) 5 at  $11\frac{1}{2}d.$  each; (b)  $1\frac{1}{2}$  lb. at  $1s. 5d.$  a lb.; (c) 3 pints at  $7d.$  a qt.
- (a)  $13 + 27 + 19$ ; (b)  $153 \times 6$ ; (c)  $1,000 - 496$ ; (d)  $431 \div 7$ .
- (a)  $7\frac{1}{2}d. + 9\frac{1}{2}d. + 11\frac{3}{4}d.$ ; (b)  $3s. 2\frac{1}{2}d. \times 5$ ; (c)  $13s. 9d. - 7s. 6\frac{1}{2}d.$ ; (d)  $\frac{1}{8}$  of  $13s. 4d.$
- Change: (a)  $4\frac{1}{4}$  lb. to oz.; (b) 1 yd. 2 ft. to in.; (c)  $1\frac{3}{4}$  hr. to min.; (d) 1 day 13 hr. to hr.
- (a)  $\frac{8}{10} = ?$ ; (b)  $\frac{7}{6} = ?$ ; (c)  $\frac{9}{12} = ?$ ; (d)  $\frac{1}{3} = ?$ ; (e)  $\frac{8}{12} = ?$ ; (f)  $\frac{2}{5} = ?$ .
- (a)  $\frac{1}{2} + \frac{1}{3} = ?$ ; (b)  $\frac{1}{3} + \frac{1}{4} = ?$ ; (c)  $\frac{1}{2} + \frac{1}{4} = ?$ ; (d)  $\frac{7}{8} - \frac{1}{2} = ?$ ; (e)  $\frac{5}{6} - \frac{2}{3} = ?$ ; (f)  $\frac{4}{5} - \frac{3}{10} = ?$ .
- How many tens in (a) 30; (b) 16 hundred; (c) five thousand?
- (a)  $\frac{1}{2}$  of  $7s. 10d.$ ; (b)  $\frac{2}{3}$  of £1; (c)  $\frac{7}{8}$  of  $11s.$ ; (d)  $\frac{5}{6}$  of 1 day; (e)  $\frac{3}{4}$  of  $15s.$
- (a)  $1\frac{1}{2}$  lb. + 9 oz.; (b)  $1\frac{3}{4}$  hr. + 45 min.; (c) 1 ton 19 cwt. + 1 ton 7 cwt.; (d) 1 gall. 3 qt + 1 gall. 2 qt.
- (a) 1 yd. 2 ft. + 2 yd. 2 ft.; (b) 3 ft. 11 in. + 2 ft. 10 in.; (c) 3 wk. 5 dy. + 1 wk 3 dy.
- What part of 1 ton is (a) 15 cwt.; (b) 10 cwt.; (c) 8 cwt.; (d) 5 cwt.?
- How much is needed in each case to make £1: (a)  $12s. 6d.$ ; (b)  $9s. 11\frac{1}{2}d.$ ; (c)  $3s. 7\frac{1}{2}d.$ ; (d)  $17s. 1\frac{1}{4}d.$ ?
- (a)  $1\frac{1}{2}$  lb. of chocolate at  $6d.$  a  $\frac{1}{4}$  lb.; (b)  $7s. 4d.$  is paid for 8 hr. work. How much per hr. is that?
- How many hr. and min. are there from (a) 8.55 a.m. to 10.15 a.m.? (b) 10.10 a.m. to 11.35 a.m.?
- A halfpenny measures 1 inch across. Find the value of a line of half-pennies, 2 yd. long?
- A grass plot is 15 yd. 2 ft. long and 9 yd. 1 ft. wide. Find the distance round it.
- The distance between two lines on an exercise book is  $\frac{1}{4}$  in. What is the distance between the 1st line and the 27th line?
- An exercise book is 9 in. long and  $7\frac{1}{2}$  in. wide. Find the distance round it in ft. and in.
- How many 3-pint bottles can be filled from a cask holding 6 gall.?
- 7 dusters at  $3\frac{1}{2}d.$  each. Change from  $10s. = ?$
- (a) 3 times  $1s. 6d.$  — twice  $1s. 7d.$ ; (b)  $\frac{2}{3}$  of 1 guinea —  $\frac{3}{4}$  of  $10s. 4d.$
- How many penholders at 3 a penny can be bought for  $5s. 11d.$ ?

## Exercise 44

### Area and Scale. Practical Work

1. Using squared paper, draw a rectangle 9 ft. by 4 ft. Let 1 side of a small square stand for 1 foot. What is the area of the rectangle (a) in square feet; (b) in square yards? Draw lines showing the number of sq. yd. there are in the rectangle.

2. Using squared paper, draw a rectangle 1 ft. 4 in. by 1 ft. 3 in. Let 1 side of a small square stand for 1 inch. This rectangle has an area of 240 sq. in. ( $16 \times 15$  sq. in.) or 1 sq. ft. 96 sq. in. Test the area by making out the square foot as shown in fig. 1 and counting the squares in the remainder.

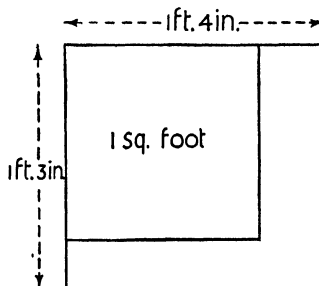


Fig. 1

3. Find (a) in the usual way; (b) by making a drawing on squared paper, the area of a rectangle 1 ft. 6 in. by 1 ft. 2 in.

4. Find (a) by arithmetic; (b) by making a drawing on squared paper, the area of the floor (fig. 2) shown. Give your answer (a) in sq. ft.; (b) in sq. yd. and sq. ft.

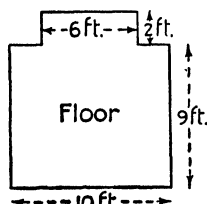


Fig. 2

5. Find (a) by arithmetic; (b) by making a drawing on squared paper, the area of the floor (fig. 3) shown. Give your answer (a) in sq. ft.; (b) in sq. yd. and sq. ft.

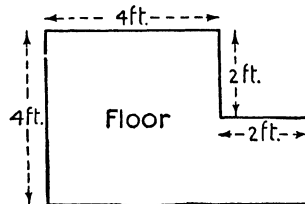
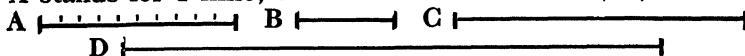


Fig. 3

6. How far is it all round the floor (a) fig. 1; (b) fig. 2?

7. If line A stands for 1 mile, what distances do lines B, C, and D stand for?



8. Letting  $\frac{1}{2}$  an inch stand for 1 foot, draw lines to stand for (a) 3 ft. 6 in.; (b) 4 ft.; (c) 2 ft. 9 in.

9. Fig. 4 shows a map of a railway, drawn to the scale of  $\frac{1}{10}$  inch = 1 mile. How far is it from (a) A to B; (b) A to C; (c) A to D in a straight line; (d) B to C?

10. How long is (a) the shortest distance; (b) the longest distance on the railway?

11. A man travels from C through A, F, E, and D and back to C. How far has he travelled?

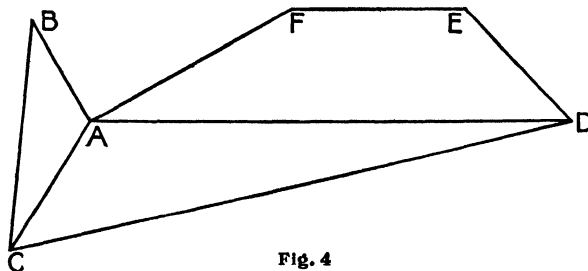


Fig. 4

## Exercise 45

### A. Measuring Division. B. Mental Arithmetic

#### A

1. How many times can a length of 3 inches be cut from a length of 4 ft.?
2. How many 2-quart bottles can be filled from a cask holding  $6\frac{1}{2}$  gall.?
3. How many articles at 1s. 6d. each can be purchased for 3 guineas?
4. How many lengths each 1 ft. 3 in. can be cut from a roll of 10 yards?
5. How many books at 1s. 9d. each can be bought for £3. 6s. 6d.?
6. How many 3-oz. butter pats can be made from  $12\frac{3}{4}$  lb. of butter?
7. How many balls at  $6\frac{1}{2}d.$  each can be bought for 11s. 11d.?
8. Sweets are packed in bottles holding  $4\frac{1}{2}$  lb. How many bottles will be required for 117 lb. of sweets?
9. How many articles at 4s. 6d. each can be bought for £4. 19s.?
10. How many times can a bucket holding  $4\frac{1}{2}$  gall. of water be filled from a bath holding 99 gall.?
11. Paraffin oil is sold at  $11\frac{1}{2}d.$  a gallon. How many gall. can be bought for £1. 10s. 8d.?
12. Mother paid 1s. 4d. a lb. for her joint of meat. How many lbs. did she get if her bill came to 7s. 4d.?
13. A bus leaves the station every 20 minutes. How many buses leave the station from 9 a.m. to 4 p.m.?

#### B

Write answers only.

14. On her 9th birthday Mary received 6d. for every month she had lived. How much did she receive?
15. How many  $1\frac{1}{2}d.$  stamps can be bought for 2s.  $7\frac{1}{2}d.$ ?
16. After spending  $\frac{3}{4}$  of her money, Mother had 12s. 6d. left. How much had she at first?
17. How much is required to make each amount into £1: (a) 13s. 6d.; (b) 17s.  $5\frac{1}{2}d.$ ; (c) 18s.  $3\frac{3}{4}d.$ ?
18. (a)  $2\frac{1}{3} + 3\frac{1}{8}$ ; (b)  $1\frac{7}{8} - 1\frac{1}{2}$ ; (c)  $3\frac{1}{5} + 1\frac{7}{10}$ ; (d)  $1\frac{3}{4} - \frac{3}{8}$ .
19. A 12-inch ruler broke into two parts. One part was  $7\frac{3}{4}$  in. How long was the other part?
20. How many bulbs at  $2\frac{1}{2}d.$  can be bought for 2s. 6d.?
21. The distance round a square piece of paper is 1 foot. Find the area of the paper.
22. It is now 1.15 p.m. What time will it be in 70 minutes?

(45) 20446

## Exercise 46

### A. Bills. B. Drawing and Measurement

#### A

- |   |  |
|---|--|
| <p>1. 10 lb. of paint at 1s. 1½<i>d.</i> a lb. =</p> <p>4 rolls of paper at 2s. 3½<i>d.</i> a roll =</p> <p>3 pt. of varnish at 22s. per gall. =</p> <p>Man's time, 12 hr. at 1s. 7½<i>d.</i></p> <p style="padding-left: 40px;">an hr. =</p> <p style="text-align: right;">Total =</p> | <p>2. 1¼ tons of coal at 2s. per cwt. =</p> <p>1 gross bundles of firewood at 11½<i>d.</i> per dozen bundles =</p> <p>¼ ton of coke at 1s. 8<i>d.</i> per cwt. =</p> <p style="text-align: right;">Total =</p>   |
| <p>3. ½ dozen knives at 18s. 9<i>d.</i> a dozen =</p> <p>½ dozen forks at 12s. 3<i>d.</i> a dozen =</p> <p>1 dozen spoons at 8½<i>d.</i> each =</p> <p>½ dozen spoons at 10½<i>d.</i> each =</p> <p style="text-align: right;">Total =</p>  | <p>4. 5 dozen bananas at 10 for 1s. =</p> <p>12½ lb. of apples at 5 lb. for 1s. =</p> <p>16 lemons at 4 for 3<i>d.</i> =</p> <p>7 peaches at 4½<i>d.</i> each =</p> <p style="text-align: right;">Total =</p>  |
| <p>5. 3½ yards at 2s. 11<i>d.</i> a yard =</p> <p>12 yd. at 11¾<i>d.</i> a yard =</p> <p>5½ yd. at 1s. 7<i>d.</i> a yard =</p> <p>1 dozen yards at 2s. 3<i>d.</i> a yard =</p> <p style="text-align: right;">Total =</p>  | <p>6. 1 dozen jerseys at 3s. 3<i>d.</i> each =</p> <p>11 pairs of knickers at 1s. 11½<i>d.</i> a pair =</p> <p>11 pairs of stockings at 1s. 5½<i>d.</i> a pair =</p> <p>11 pairs of football boots at 8s. 11<i>d.</i> a pair =</p> <p style="text-align: right;">Total =</p> |

#### B

1. Draw to a scale of 1 inch = 1 foot, lines to stand for (a) 1½ feet; (b) 3¾ ft.; (c) 2 ft. 3 in.
2. Using squared paper (the side of one small square to a yard) draw the plan of a rectangular yard, 35 yards by 40 yards. Show a path 3 yd. wide outside the garden. Say how you would find the area of the path.
3. Draw a line 4½ inches long. Mark off ⅞ of the line.
4. Draw 5 parallel lines at a distance of 2 inches from one another. What is the distance between the 1st and 5th lines?
5. Letting ½ an inch stand for 1 oz., draw lines to stand for (a) ½ lb.; (b) ¾ lb.; (c) 1 lb. 3 oz.
6. A plot of land forms a right-angled triangle. The sides forming the right angle are 28 yd. and 21 yd. long. Draw the plot to a scale of ⅓ of an inch to 1 yard and find, by measuring, the length of the third side.
7. Line AB stands for 36 miles. How many miles is that to the inch?

A \_\_\_\_\_ B

## Exercise '47

### A. Mental. B. Mechanical

#### A

1. How many rubbers at 2 for  $1\frac{1}{2}d.$  can be bought for  $10\frac{1}{2}d.$ ?
2. Father planted 5 rows of plants, 18 in a row and had 4 left over. How many plants had he at first?
3. How many pieces of 6 inches can be cut from a length of  $11\frac{1}{2} yd.$ ?
4. Divide 720 by 12 and add 100 to your answer.
5. 3 lb. 2 oz. at 8d. a lb.
6. How many (a) halfpence in 1s.  $7\frac{1}{2}d.$ ; (b) half-crowns in £1. 5s.; (c) farthings in 1s.  $7\frac{1}{4}d.$ ?
7. (a) 3 lb. 2 oz. — 12 oz.; (b) 1 week 1 day — 6 days; (c) 1 hr. 15 min. —  $\frac{3}{4}$  hr.
8. Find the cost of 500 postcards at 10 for  $1\frac{1}{2}d.$
9. Find the change from £1 after paying for 3 gall. of milk at  $3\frac{1}{2}d.$  a pint.
10. (a)  $\frac{2}{3}$  of 7s.  $1\frac{1}{2}d.$ ; (b)  $\frac{3}{4}$  of 1 hr. 20 min.; (c)  $\frac{5}{6}$  of £1.

#### B

- |  |   |
|--|---|
| 1. $\frac{1}{2}$ of 6,713.   | 2. $\frac{1}{5}$ of £3. 15s. $7\frac{1}{2}d.$   |
| 3. $127 \times (a) 19$ ; (b) 23; (c) 37.   | 4. 1s. $9\frac{1}{2}d.$ $\times (a) 21$ ; (b) 16; (c) 27.   |
| 5. $7,619 - (1,201 + 2,308)$ .   | 6. £79. 13s. $4\frac{3}{4}d.$ — £57. 14s. $9\frac{1}{2}d.$  |
| 7. $3,327 \div (a) 19$ ; (b) 37.   | 8. £13. 15s. 3d. $\div (a) 12$ ; (b) 6.   |
| 9. $\frac{4}{5}$ of 7,314.   | 10. $\frac{7}{8}$ of £92. 4s. 8d.   |
| 11. $1,213 + 3,756 + 179 + 33$ .   | 12. £11. 17s. 0d. + £13. 5s. 9d. + 17s. $8\frac{1}{2}d.$ + 1s. 11d.   |
| 13. £ $2\frac{1}{5}$ + £ $3\frac{1}{8}$ + £ $1\frac{7}{12}$ — £ $2\frac{2}{3}$ . | 14. $5\frac{1}{4}$ ft. + $3\frac{3}{4}$ ft. + $2\frac{7}{12}$ ft. — $1\frac{5}{8}$ ft.<br>(Ans. in yd., ft., and in.) |
| 15. $(99 \times 57) - 1,009$ .   | 16. $(1s. 8\frac{1}{2}d. \times 17) - 3s. 11\frac{3}{4}d.$  |
| 17. Change to threepences, £3. 9s.   | 18. Change to threehalfpence, 11s. $10\frac{1}{2}d.$  |
| 19. 3 lb. 2 oz. + 4 lb. 17 oz. — 2 lb. 9 oz.                                     | 20. 2 yd. 1 ft. 6 in. — 1 yd. 2 ft. 9 in.   |
| 21. (a) $1\frac{5}{8} - \frac{3}{4}$ ; (b) $2\frac{2}{3} + 1\frac{5}{8}$ .       | 22. Arrange in order, lowest first:<br>$\frac{3}{4}, \frac{5}{8}, \frac{2}{3}$ .                                      |
| 23. 1 hr. 37 min. + 2 hr. 33 min. — 1 hr. 40 min.                                | 24. 3 gall. 2 qt. + 4 gall. 2 qt. — 3 qt. 1 pt.   |
| 25. (a) $135 \times 29$ ; (b) $3,719 \div 45$ .                                  | 26. (a) £1. 13s. 9d. $\times 12$ ; (b) 1s. 8d. $\times 37$ .  |
| 27. 1s. $7\frac{1}{2}d.$ $\times (a) 15$ ; (b) 19; (c) 27.                       | 28. 1s. $4\frac{1}{4}d.$ $\times (a) 19$ ; (b) 23; (c) 36.  |

## Exercise 48

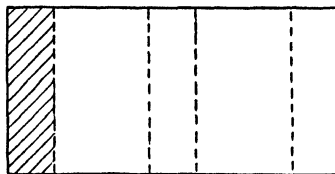
### Problems

1. A dealer buys bicycles at £3. 12s. 6d. each and sells them at 5 guineas each. How much does he gain on 12 bought and sold?
2. A milkman has 63 gall. of milk in his cart. What quantity will he have left after serving 84 customers with a quart each and 87 more with 3 pints each?
3. A girl said the sum of £11. 13s. 6d., £22. 19s. 7d., and  $13\frac{1}{2}$  guineas was £52. 17s. 6d. How much was she wrong?
4. One assistant in a shop took £45. 13s. 4d. Another took £17. 14s. 9d. less than that amount. How much did they take together?
5. A dealer bought 3 dozen suits, paid for them with six £10 notes, and received £1. 1s. change. What was the cost of 1 suit, if they were all of equal value?
6. A newsagent receives 3d. in the shilling for selling penny newspapers. How much will he receive on 2,880 papers sold?
7. How many pencils at 2 for  $1\frac{1}{2}d.$  can be bought for £3. 12s. 6d.?
8. A workman spent  $\frac{1}{6}$  of his time walking to and from a job. On his time sheet he stated that the job had taken 7 hr. 12 min. How much time was spent in actual work?
9. Two chairs and a table cost £2. 5s. The table cost £1. 10s. How much was each chair?
10. A dealer bought 2 chests of tea, each holding 84 lb. He made the tea up into  $\frac{1}{4}$  lb. packets. How many packets were there?
11. A farmer bought a horse for 16 guineas. After keeping it for 9 weeks at a cost of 3s. 6d. a week, he sold it to gain £2. 10s. over the cost of the horse and the food. For how much did he sell it?
12. Mother buys 3 lb. 2 oz. of wool to knit socks for Father. If each pair of socks takes 5 oz., how many pairs can be knitted?
13. It took us 1 hr. 35 min. to get to the seaside, and 37 minutes longer to return. How long did the double journey take?
14. The short side of a rug measures 33 inches and the long side 58 inches. Find, in yd. ft. and in., the distance round the rug.
15. A boy makes a right about turn. Through how many degrees has he turned?

## Exercise 49

### Revision

- Let 1 inch stand for 1 lb. and draw a line to stand for  $\frac{1}{2}$  a stone (weight).
- Draw a square, making the sides 4 inches long. Then draw lines joining the middle of the top side with the two base (bottom) angles. What is the area of the biggest triangle within the square?
- (a)  $\frac{1}{6}$  yd. +  $\frac{2}{3}$  yd.; (b)  $1\frac{5}{8}$  dy. -  $\frac{2}{3}$  dy.; (c)  $\pounds 2\frac{3}{8}$  +  $\pounds 3\frac{3}{4}$ ; (d)  $\frac{3}{5}$  hr. +  $\frac{7}{10}$  hr.
- Write in another form: (a)  $\frac{11}{3}$ ,  $\frac{19}{8}$ ,  $\frac{13}{4}$ ,  $\frac{17}{6}$ ; (b)  $2\frac{1}{3}$ ,  $1\frac{5}{12}$ ,  $2\frac{1}{4}$ ,  $2\frac{1}{8}$ .
- Find  $x$  in each of the following: (a)  $\frac{8}{12} = \frac{x}{3}$ ; (b)  $\frac{4}{6} = \frac{x}{3}$ ; (c)  $\frac{6}{8} = \frac{x}{4}$ ; (d)  $\frac{2}{4} = \frac{x}{2}$ .
- (a)  $\pounds 19. 17s. 4d.$  +  $\pounds 11. 19s. 8d.$  +  $\pounds 7. 6s. 9d.$  +  $\pounds 13. 19s. 8d.$ ; (b)  $\pounds 99. 13s. 4d.$  -  $\pounds 39. 17s. 5d.$
- Draw a rectangle 6 in. by  $4\frac{1}{2}$  in. Draw a diagonal. What is the area of each triangle?
- How many school milk bottles ( $\frac{1}{3}$  pint) can be filled from 25 gall. of milk?
- (a)  $7 \times 10 \times 11 \times 12$ ; (b)  $9,888 \div 200$ ; (c)  $7,169 \div 81$ ; (d)  $97 \times 86$ .
- Find the sum of two thousand and sixty-seven, three thousand and four, seventy-nine, and one thousand and eighty-four.
- How many times is 2s. 3d. contained in  $\pounds 13. 10s.$ ?
- Find the difference between 73 half-crowns and 1,000 sixpences.
- (a) 3 lb. 6 oz. + 7 lb. 9 oz. + 3 lb. 11 oz.; (b) 9 hr. 12 min. - 3 hr. 45 min.
- A motor left Lincoln at 8.30 a.m. and arrived Glasgow at 6 p.m. How long did the journey take?
- How much is  $\pounds 26. 12s. 7\frac{1}{2}d.$  short of  $\pounds 50$ ?
- Letting  $\frac{1}{2}$  an inch stand for 1 year, draw a line to show how many years old you are.
- Open out the lid of a match-box, as shown in the diagram. Then measure it and draw one on cardboard, twice the size. Cut it out and fold along the dotted lines. Gum down the flap (shaded part).
- Make a tray to fit the lid of the match-box in number 17.
- 1s.  $6\frac{1}{2}d.$   $\times$  (a) 12; (b)  $\times$  34.
- During the week Class III had 235 bottles of milk. How much money should teacher have for the milkman (the bottles are  $\frac{1}{2}d.$  each)?



## Exercise 50

### Tests

#### A

1. (a)  $1,237 + 2,756 + 979 - 1,004$ ; (b)  $137 \times 21$ ; (c)  $2,301 \div 27$ .
2. (a) £93. 2s. 5d. — £37. 11s. 9d.; (b) £100. 0s. 0d. — £37. 2s.  $6\frac{1}{2}$ d.
3. Father planted 17 rows of plants with 39 in a row and had 23 left over. How many plants had he at first?
4. Find the total cost of 225 halfpenny stamps and 225 penny stamps.
5. The butcher's boy had in his basket  $3\frac{1}{2}$  lb. of beef, 2 lb. 7 oz. of mutton, and  $\frac{3}{4}$  lb. of suet. What weight altogether had he in the basket?

#### B

1. (a) £17s. 11s. 3d. + £19. 9s. 7d. + £14. 13s. 5d. — £29. 18s. 9d. (b)  $1s. 7d. \times 25$ ;  
(c) £34. 12s. 6d.  $\div 10$ .
2. 5 yd. 2 ft. 4 in. — 2 yd. 2 ft. 7 in.
3. A baker has 798 pastries which he sells at 7 for 6d. How much money does he get for all the pastries?
4. A bus started at 9 a.m. and reached the end of its journey at 10.45 a.m. If it travelled at the rate of 20 miles per hour, how many miles was the journey?
5. Eggs are sold at 1s. 9d. a dozen. How much must be paid for 8 eggs?

#### C

1. (a)  $127 \times 32$ ; (b)  $1s. 6\frac{1}{2}d. \times 18$ ; (c)  $3,717 \div 45$ .
2. Chairs are bought for 5s. 9d. and sold for 9s. 6d. How much profit is made on 1 dozen chairs?
3. Share 45 guineas equally among 5 men and 4 women.
4. 145 sixpences — 145 threepences.
5. A draper has 20 yards of ribbon. One customer buys  $2\frac{1}{2}$  ft. and another buys 3 ft. 9 in. What length is left?

#### D

1. (a)  $3,217 + 2,169 + 953 - 2,178$ ; (b) £10. 14s.  $0\frac{1}{2}d. \div 11$ ; (c) £93. 7s. 3d. — £17. 17s. 6d.
2. How many  $\frac{1}{2}$ -pint bottles of milk can be filled from a churn holding 7 gall. 2 qt.? What is the milk worth at  $6\frac{1}{2}d.$  a quart?
3. How many 8d. balls can be bought for £1. 12s.?
4. (a)  $\frac{1}{2} + \frac{1}{4} + \frac{1}{3}$  of £1; (b)  $1\frac{3}{8} - \frac{2}{3}$ .
5. A bat was marked 12s. 6d. Another one was marked 3s. 9d. more. What would the two bats cost?

## Table Square

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32
3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48
4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64
5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112
8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128
9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	144
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160
11	22	33	44	55	66	77	88	99	110	121	132	143	154	165	176
12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192
13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208
14	28	42	56	70	84	98	112	126	140	154	168	182	196	210	224
15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240
16	32	48	64	80	96	112	128	144	160	176	192	208	224	240	256

### MONEY

2s. 6d. =  $\frac{1}{8}$  of £1.

1s. 3d. =  $\frac{1}{16}$  of £1.

2s. 0d. =  $\frac{1}{10}$  of £1.

$1\frac{1}{2}$ d. =  $\frac{1}{8}$  of 1s.

### WEIGHT

8 oz. =  $\frac{1}{2}$  lb.

4 oz. =  $\frac{1}{4}$  lb.

12 oz. =  $\frac{3}{4}$  lb.

16 oz. = 1 lb.

### TIME

15 minutes =  $\frac{1}{4}$  hr.

30 minutes =  $\frac{1}{2}$  hr.

45 minutes =  $\frac{3}{4}$  hr.

60 minutes = 1 hr.

## Tables

### I. LENGTH

12 ins. = 1 foot (ft.)

3 feet = 1 yard (yd.)

22 yards = 1 chain (ch.)

10 chains = 1 furlong (fur.)

8 furlongs = 1 mile (ml.)

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### II. WEIGHT

16 ounces = 1 pound (lb.)

14 pounds = 1 stone (st.)

2 stones or  
28 pounds } = 1 quarter (qr.)

4 quarters = 1 hundredweight (cwt.)

112 lb. = 1 cwt.

20 cwt. = 1 ton.

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### III. CAPACITY

2 pints = 1 quart (qt.)

4 quarts = 1 gallon (gall.)

8 pints = 1 gallon.

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### IV. AREA

144 square inches = 1 square foot  
(1 sq. ft.)

9 square feet = 1 square yard  
(1 sq. yd.)

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### V. TIME

60 seconds = 1 minute (1 min.)

60 minutes = 1 hour (1 hr.)

24 hours = 1 day (1 dy.)

7 days = 1 week (1 wk.)

52 weeks = 1 year.

365 days = 1 ordinary year.

366 days = 1 leap year.

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### VI. MONEY

4 farthings = 1 penny (d.)

12 pence = 1 shilling (s.)

20 shillings = 1 pound (£)

2 shillings = 1 florin.

2s. 6d. = 1 half-crown.

5s. = 1 crown.

21s. = 1 guinea.

4 crowns  
8 halfcrowns  
10 florins  
20 shillings  
40 sixpences  
80 threepences } make £1.

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### VII. ROMAN NOTATION

I, II, III, IV, V, VI, VII, VIII, IX, X,  
XX (20), XL (40), L (50),  
C (100), CC (200), D (500), M (1000)



