
THE
NEW PROGRESS
ARITHMETICS

BOOK 3

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- (11) How many sixths in 5 units?
- (12) How many ninths in 3 units?
- (13) How many thirds in 10 units?
- (14) How many sixths in $1\frac{1}{2}$ units?
- (15) How many sixths in $2\frac{1}{2}$ units?

Exercise 20

- (1) Find $\frac{1}{8}$ of 16s. 3d.
- (2) Find $\frac{1}{10}$ of 2,385.
- (3) Add $\frac{1}{3}$ of 4s. $7\frac{1}{2}$ d. to $\frac{1}{4}$ of 11s. 3d.
- (4) A man had £720. He spent £144, and put $\frac{1}{4}$ of what was left into the bank. How much did he put into the bank?
- (5) How many shillings would I need in order to give 4d. to each of 57 boys?
- (6) One-ninth of a certain number is 47. Find one-third of this number.
- (7) One-third of my money is 8s. 6d. Find one-ninth of my money.
- (8) If a certain sum of money were divided equally amongst 3 boys, each would get 13s. 9d. If the same sum of money were divided equally amongst 9 boys, how much would each get?
- (9) $\frac{1}{5}$ of 360 + 15 + $\frac{1}{6}$ of 810.
- (10) Three years ago, Jack's father was three times as old as Jack is now. Jack is 17 now. How old is his father?
- (11) Take $\frac{1}{8}$ of 396 from 731.
- (12) In a case of 360 oranges, 1 orange in every 6 is bad. How many of the oranges are fit for sale?
- (13) Nine men had equal shares in a prize of £2,790. How much money did each man get?
- (14) Find $\frac{1}{4}$ of 19s. 6d.

Exercise 21

Addition and Subtraction

Work each of the following Addition sums:
Check each answer by adding *downwards*.

(1)	(a)	(b)	(c)	(d)	(e)	(f)
	572	257	284	571	801	712
	141	241	176	612	324	198
	759	299	100	135	256	276
	653	876	935	214	351	401
	527	153	319	428	217	165
	256	191	107	132	127	372

(2)	(a)	(b)	(c)	(d)	(e)	(f)
	512	112	272	119	992	1,067
	415	395	149	267	199	2,132
	297	207	152	153	188	488
	136	316	768	899	165	197
	256	125	2,157	526	208	4,623
	173	158	388	632	265	101

(3) $537 + 253 + 719 + 847 =$

(4) $342 + 467 + 356 + 802 =$

(5) $893 + 754 + 208 + 325 =$

(6) $214 + 623 + 463 + 571 =$

(7) $926 + 479 + 921 + 708 =$

(8) $4,601 - 2,589.$

(10) $4,213 - 1,759.$

(12) $6,000 - 2,534.$

(14) $3,101 - 1,018.$

(16) $2,222 - 999.$

(18) Take 1,199 from $\frac{1}{2}$ of 8,000.

(9) $5,276 - 2,388.$

(11) $2,906 - 2,534.$

(13) $7,129 - 4,765.$

(15) $3,100 - 299.$

(17) $5,307 - 1,059.$

<i>£1 or Twenty Shillings</i>							
<i>10 Shillings</i>				<i>10 Shillings</i>			
<i>5s.</i>	<i>5s.</i>	<i>5s.</i>	<i>5s.</i>	<i>5s.</i>	<i>5s.</i>	<i>5s.</i>	<i>5s.</i>
<i>2/6</i>	<i>2/6</i>	<i>2/6</i>	<i>2/6</i>	<i>2/6</i>	<i>2/6</i>	<i>2/6</i>	<i>2/6</i>

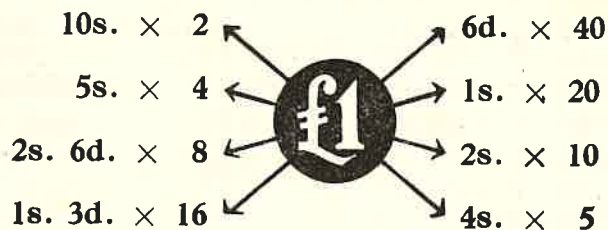
Study the diagram, and then *write down* :

- (5) (a) the number of half-crowns in **5s.** ;
 (b) the number of half-crowns in **10s.** ;
 (c) the number of half-crowns in **15s.**
 (6) (a) Take **10s.** from **£1.**
 (b) Take **5s.** from **£1.**
 (c) Take **7** half-crowns from **£1.**

Work in full :

- (7) A grocer buys a chest of tea at **2s. 6d.** a pound. The chest of tea costs him **£14.** How many pounds of tea does it contain?
 (8) How many half-crown tickets could I buy for **£13** ?
 (9) How many half-crown tickets could I buy for **£21 2s. 6d.** ?
 (10) Add together : **3s. 11½d.** ; $\frac{1}{4}$ of **10s.** ; and $\frac{1}{8}$ of **£1.**
 (11) How many times is **10s.** contained in **£93 10s.** ?
 (12) How many times is **5s.** contained in **£27 5s.** ?
 (13) How much will **40** sixpenny books cost ?

Things to Remember



Study the diagram and then *write down* the answers to the following questions :

- (14) How much will **42** sixpenny books cost ?
 (15) What is the total cost of **4** books at **5s.** each and **5** books at **4s.** each ?
 (16) How many half-crowns in **£1** ?
 (17) Find the cost of **9** lbs. tea at **2s. 6d.** a lb.
 (18) How many tickets at **1s. 3d.** each can I buy for **£1** ?
 (19) What is **17** times **1s. 3d.** ?
 (20) I spend **£2** on **2s.** books. How many books do I buy ?
 (21) I spend **£2** on **4s.** books. How many books do I buy ?
 (22) How many half-crowns in **12s. 6d.** ?
 (23) How many half-crowns in **£8 10s.** ?
 (24) What is **16** times **5s.** ?
 (25) **4s. × 15.**
 (26) How many sixpences in **£1 10s.** ?

Exercise 38

- (1) $2,259 + 1,976 + 527 + 2,109 - 3,765$.
- (2) $(176 + 925 + 324 + 429) \div 9$.
- (3) What must be added to 31s. 6d. to make £4 7s. 6½d.?
- (4) A woman had £4 10s. She spent £1 13s. 7½d. in one shop, and 18s. 9d. in another. How much had she left then?
- (5) A man bought two articles for £2 12s. One of the articles cost 35s. 6d. How much did the other cost?
- (6) Take the sum of 1s. 11d. and 4s. 9½d. from the difference between 2s. 3¾d. and 12s. 1½d.
- (7) There are 240 pence in a pound. How many half-pennies in £7?
- (8) Tom is saving up for a £14 bicycle, and is £1 4s. 6d. short. How much money has he?
- (9) In a case of 200 apples, 1 out of every 8 was bad. How many were good?
- (10) 238×27 . (11) 347×53 .
- (12) A housekeeper buys 2 lbs. of butter at 2s. 10d. a lb., 3½ lbs. of sausages at 1s. 10d. a lb., and 4 lbs. of tea at 2s. 6d. a lb. How much does she spend?
- (13) What sum of money can be taken 6 times from 17s. 6d. without leaving a remainder?
- (14) Find the total cost of 7 books at 1s. 3d. each, and 7 books at 1s. 6d. each.
- (15) If John had £1 11s. more he would have £7 5s. How much money has he?
- (16) A woman buys 7 lbs. of bacon for 18s. 4½d. How much does each lb. cost her?

Exercise 39

Multiplication of Money

Things to remember

- (1) Any number of *pence* $\times 12$ = the same number of *shillings*.

$$\begin{array}{l} 7d. \times 12 = 7s. \quad 8d. \times 12 = 8s. \\ 7\frac{1}{2}d. \times 12 = 7\frac{1}{2}s. \quad 8\frac{1}{2}d. \times 12 = 8\frac{1}{2}s. \\ 7\frac{3}{4}d. \times 12 = 7\frac{3}{4}s. \quad 8\frac{3}{4}d. \times 12 = 8\frac{3}{4}s. \end{array}$$

- (2) Any number of *shillings* $\times 20$ = the same number of *pounds*.

$$\begin{array}{l} 6s. \times 20 = £6. \quad 7s. \times 20 = £7. \\ 6s. 6d. \times 20 = £6\frac{1}{2}. \quad 7s. 6d. \times 20 = £7\frac{1}{2}. \end{array}$$

Write down the answers to the following:

- (1) Find the cost of 12 articles:
(a) at 2d. each; (b) at 5d. each; (c) at 8d. each; (d) at 11d. each.
- (2) Find the cost of 12 articles:
(a) at 1d. each; (b) at ½d. each; (c) at ¼d. each; (d) at ¾d. each.
- (3) What will 12 eggs cost when one costs (a) 3½d.?
(b) 3¼d.? (c) 4¾d.?
- (4) Find the cost of 1 apple when 1 dozen costs (a) 5s. 6d.; (b) 4s. 3d.; (c) 3s. 9d.
- (5) A book costs 4s. 6d. Find the cost of 20 similar books.
- (6) 20 boys subscribe 2s. 6d. each to a football club. How much money do they subscribe altogether?

- (7) (a) $2\frac{1}{4}\text{d.} \times 12$; (b) $10\frac{1}{4}\text{d.} \times 12$; (c) $9\frac{3}{4}\text{d.} \times 12$.
 (8) (a) $4\text{s.} \times 20$; (b) $5\text{s. } 6\text{d.} \times 20$; (c) $9\text{s. } 6\text{d.} \times 20$.
 (9) A bag of cement costs $8\text{s. } 6\text{d.}$. What will 20 bags of cement cost?
 (10) An egg costs 3d. . What will 24 eggs cost?

MULTIPLICATION

Exercise 40

(1)	(2)	(3)	(4)	(5)	(6)
s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
11 5 2	12 7 2	13 1 $\frac{1}{4}$ 3	7 9 $\frac{1}{2}$ 3	8 4 $\frac{1}{2}$ 4	5 7 $\frac{1}{2}$ 4
(7)	(8)	(9)	(10)	(11)	(12)
s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
5 3 $\frac{1}{2}$ 5	6 7 $\frac{1}{2}$ 5	2 2 $\frac{1}{4}$ 6	4 3 6	3 9 $\frac{1}{2}$ 7	5 10 $\frac{1}{2}$ 7
(13)	(14)	(15)	(16)	(17)	(18)
s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
3 9 $\frac{1}{2}$ 8	4 3 8	4 5 $\frac{1}{4}$ 9	3 4 $\frac{1}{2}$ 9	3 3 $\frac{1}{4}$ 10	7 11 10
(19)	(20)	(21)	(22)	(23)	(24)
s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
2 5 10	3 7 11	2 10 11	2 3 11	2 5 $\frac{1}{2}$ 12	3 9 $\frac{1}{4}$ 12

- (25) $\text{£}1\ 3\text{s. } 4\text{d.} \times 2$. (26) $\text{£}1\ 8\text{s. } 6\frac{1}{2}\text{d.} \times 4$.
 (27) $\text{£}1\ 4\text{s. } 9\text{d.} \times 5$. (28) $\text{£}1\ 7\text{s. } 3\frac{1}{2}\text{d.} \times 6$.
 (29) $\text{£}1\ 3\text{s. } 7\text{d.} \times 7$. (30) $\text{£}1\ 8\text{s. } 2\text{d.} \times 8$.

Exercise 41

- (1) $\text{£}2\ 1\text{s. } 4\text{d.} \times 4$. (2) $\text{£}1\ 3\text{s. } 8\text{d.} \times 9$.
 (3) $\text{£}1\ 13\text{s. } 2\text{d.} \times 6$. (4) $19\text{s. } 10\text{d.} \times 10$.
 (5) $14\text{s. } 5\text{d.} \times 7$. (6) $7\text{s. } 8\text{d.} \times 11$.
 (7) $\text{£}1\ 4\text{s. } 3\frac{1}{2}\text{d.} \times 8$. (8) $\text{£}2\ 1\text{s. } 5\text{d.} \times 12$.
 (9) $\text{£}2\ 3\text{s. } 6\text{d.} \times 10$. (10) $\text{£}1\ 5\text{s. } 1\frac{1}{2}\text{d.} \times 12$.
 (11) $\text{£}3\ 4\text{s. } 5\text{d.} \times 8$. (12) $\text{£}4\ 7\text{s. } 2\frac{1}{2}\text{d.} \times 9$.
 (13) $\text{£}2\ 17\text{s. } 4\text{d.} \times 2$. (14) $\text{£}3\ 15\text{s. } 7\text{d.} \times 3$.
 (15) $\text{£}2\ 13\text{s. } 8\frac{1}{2}\text{d.} \times 4$. (16) $\text{£}5\ 11\text{s. } 9\frac{1}{2}\text{d.} \times 5$.
 (17) $\text{£}3\ 10\text{s. } 6\frac{1}{2}\text{d.} \times 7$. (18) $\text{£}3\ 9\text{s. } 11\text{d.} \times 8$.

- (19) Write down the answers to each of the following:
 (a) $5\frac{1}{2}\text{d.} \times 12$. (b) $1\text{s. } 5\frac{1}{2}\text{d.} \times 12$.
 (c) $\text{£}1\ 0\text{s. } 1\text{d.} \times 12$.
- (20) Write down the answers to each of the following:
 (a) $3\text{s.} \times 20$. (b) $3\text{s. } 6\text{d.} \times 20$.
 (c) $4\text{s. } 6\text{d.} \times 20$. (d) $5\text{s.} \times 20$.
 (e) $\text{£}1\ 5\text{s.} \times 20$.

Work in full:

- (21) $\text{£}4\ 19\text{s. } 6\text{d.} \times 6$. (22) $\text{£}2\ 11\text{s. } 5\frac{1}{2}\text{d.} \times 11$.
 (23) $\text{£}6\ 10\text{s. } 6\frac{1}{2}\text{d.} \times 5$. (24) $\text{£}3\ 16\text{s. } 4\text{d.} \times 10$.
 (25) $\text{£}14\ 11\text{s. } 7\text{d.} \times 4$. (26) $\text{£}8\ 15\text{s. } 3\frac{3}{4}\text{d.} \times 3$.
 (27) $\text{£}3\ 13\text{s. } 8\text{d.} \times 11$. (28) $\text{£}7\ 5\text{s. } 6\text{d.} \times 9$.
 (29) $\text{£}4\ 8\text{s. } 4\frac{1}{2}\text{d.} \times 6$. (30) $\text{£}11\ 10\text{s. } 8\frac{1}{4}\text{d.} \times 8$.
 (31) $\text{£}3\ 15\text{s. } 7\text{d.} \times 7$. (32) $\text{£}10\ 3\text{s. } 11\text{d.} \times 9$.

Exercise 42

Division of Money

- | | |
|-------------------------------|------------------------------|
| (1) 19s. 2d. \div 5. | (2) 16s. 3d. \div 5. |
| (3) 15s. 9d. \div 7. | (4) 15s. 2d. \div 4. |
| (5) 16s. 11½d. \div 11. | (6) 19s. 6d. \div 12. |
| (7) £1 7s. 6d. \div 2. | (8) £2 1s. 6d. \div 3. |
| (9) £2 10s. 4d. \div 4. | (10) £2 7s. 1d. \div 5. |
| (11) £12 12s. 6d. \div 10. | (12) £3 8s. 11½d. \div 5. |
| (13) £2 12s. 6d. \div 9. | (14) £4 12s. 2d. \div 7. |
| (15) £8 1s. 8d. \div 4. | (16) £19 7s. 9d. \div 6. |
| (17) £1 12s. 6d. \div 5. | (18) £1 19s. 7d. \div 5. |
| (19) £18 11s. 5¼d. \div 9. | (20) £27 5s. 0d. \div 12. |
| (21) £8 3s. 4d. \div 10. | (22) £49 19s. 7d. \div 2. |
| (23) £12 16s. 8d. \div 11. | (24) £26 19s. 8d. \div 8. |
| (25) £17 4s. 9d. \div 6. | (26) £43 5s. 3d. \div 3. |
| (27) £25 16s. 8d. \div 8. | (28) £26 13s. 0d. \div 12. |
| (29) £11 15s. 10d. \div 10. | (30) £24 5s. 10d. \div 11. |

Write down the answers to the following :

- | | | |
|--------------------------------|------------------------|--------------------|
| (31) (a) 5s. \div 12. | (b) 6s. 6d. \div 12. | |
| (32) (a) £7 \div 20. | (b) £9 \div 20. | (c) £11 \div 20. |
| (33) (a) £6 10s. \div 20. | (b) £9 10s. \div 20. | |
| (34) (a) 7s. 6d. \times 20. | (b) 5½d. \times 12. | |
| (35) (a) 10s. 6d. \times 20. | (b) 7½d. \times 12. | |

Exercise 43

- (1) Five men shared equally a prize of £6 3s. 4d. How much did each man get?
- (2) Divide £4 18s. 9d. equally between two boys.
- (3) A man is 310 months old. Express his age in years and months.

- (4) A woman pays £1 8s. 6d. for 9 pounds of bacon. How much does she pay per pound?
- (5) 9 pounds of cheese cost £1 4s. How much will 1 pound cost?
- (6) A man is paid £11 15s. for 10 days' work. How much is this per day?
- (7) 3 tons of coal cost £22 11s. 6d. How much is this per ton?
- (8) A shopkeeper bought 7 tricycles for £29 8s. How much did he pay for each tricycle?
- (9) Eggs are 3d. each. I can buy 2 dozen eggs and 6 lbs. of butter for £1 2s. How much do I pay for each lb. of butter?
- (10) 8 men shared equally a prize of £33 4s. How much did each of them get?
- (11) A man bought 12 golf balls, and got 7s. change out of £2. How much did each ball cost him?
- (12) Sales of shilling concert tickets amounted to £23. How many tickets were sold?
- (13) 1,856 men paid 2s. 6d. each to see a football match. How many pounds does this represent?
- (14) What have I left out of £5 7s. 6d. after spending 13s. 6d., 2s. 7½d., and £2 17s. 4½d.?
- (15) 1,276 + 3,459 + 872 - 346.
- (16) A firm buys tractors at £63 each, and sells them at £87 each. How much money does it make on the sale of 46 tractors?
- (17) (a) Multiply 349 \times 74. (b) Find, by addition, the value of 349 \times 75.
- (18) Divide £1 7s. 6d. between two boys, giving one 6d. more than the other.
- (19) Divide 798 into two parts, one of which is 20 more than the other.
- (20) Divide £2 12s. into two parts, one of which is 8s. more than the other.