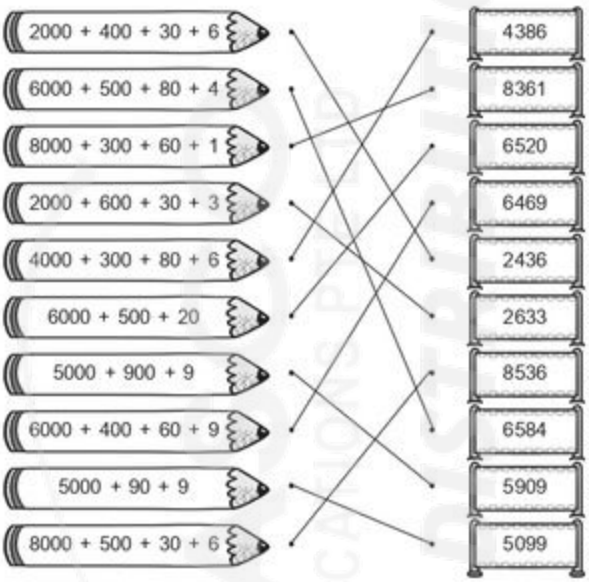
Answer Key
(Step-By-Step Mathematics 3)

Unit 1 Numbers To 10 000

Drills

Exercise 1



Exercise 2

1. Seven thousand, three hundred and forty-five
2. Two thousand, six hundred and fifty-three
3. One thousand, eight hundred and eight-seven
4. One thousand and thirty-five
5. Eight thousand and seven
6. Six thousand, nine hundred and two
7. Eight thousand, nine hundred and forty-two
8. Three thousand, nine hundred and sixty
9. Two thousand, five hundred and sixty-three
10. Three thousand and seventy-nine

Exercise 3

1. 3400	2. 8474
3. 7095	4. 2911
5. 10 000	6. 2615
7. 9033	8. 4802
9. 5012	10. 6540

Exercise 4

1. 7054	2. 3030
3. 5008	4. 2575
5. 7528	6. 6338
7. 4106	8. 2881

Exercise 5

1. 5398

Thousands	Hundreds	Tens	Ones
5	3	9	8
5 thousands	3 hundreds	9 tens	8 ones
5000	300	90	8

2. 4172

Thousands	Hundreds	Tens	Ones
4	1	7	2
4 thousands	1 hundred	7 tens	2 ones
4000	100	70	2

Exercise 6

1. (a) thousands
   (b) 70
2. (a) tens
   (b) 300
3. (a) hundreds
   (b) 9000
4. (a) thousands
   (b) 900
5. (a) 6 tens / 60
   (b) 2
6. (a) 1 hundred / 100
   (b) 3
7. (a) 6 tens / 60
   (b) 2000
8. (a) 7 hundreds / 700
   (b) 60
9. (a) hundreds
   (b) 5000

Exercise 7

1. 80
2. 3000
3. 2
4. 70
5. 50
6. 80

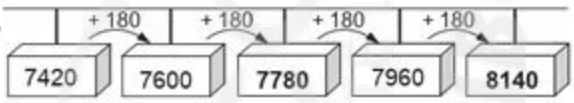
Exercise 8

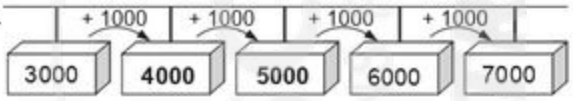
1. 1106
2. 1935
3. 4068
4. 6000
5. 3826
6. 200
7. 7136

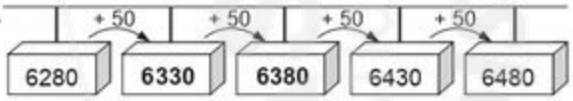
Exercise 9

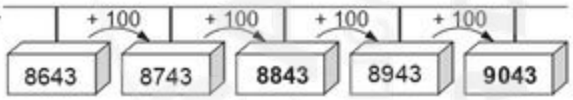
1. 2533, 3482, 7439, 8342
2. 3265, 3637, 7312, 9845
3. 3682, 7341, 9521, 9845
4. 9452, 6234, 5584, 5233
5. 8451, 7325, 4215, 1745
6. 8424, 7432, 6231, 1854

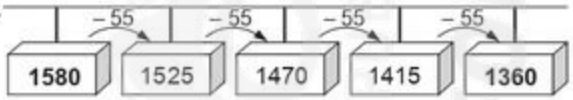
Exercise 10

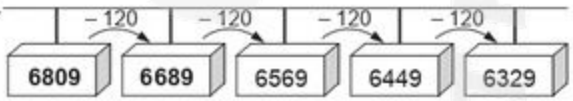
1. 

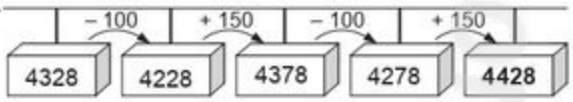
2. 

3. 

4. 

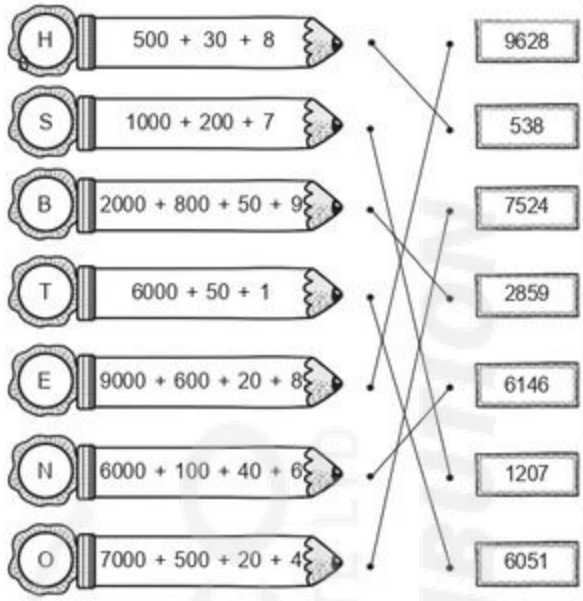
5. 

6. 

7. 

Perform

Exercise 1



B	E	H	O	N	E	S	T
2859	9628	538	7524	6146	9628	1207	6051

Exercise 2

1. **(4)**
   6353 = 6000 + 300 + 50 + 3
   The value of the digit 6 is 6000.

2. **(4)**
   8936 ← The digit 8 stands for 8000.

3. **(2)**

Thousands	Hundreds	Tens	Ones
3	(2)	7	5

   In 3275, the digit 2 is in the hundreds place.

4. **(2)**
   5472 = 5400 + 72
   = 54 hundreds + 72 ones

5. **(3)**
   In 7486, the value of the digit 4 is 400.

6. **(2)**
   5932 = 5000 + 900 + 30 + 2

7. **(3)**
   5000 = 500 tens

8. **(1)**
   The number before 6758 is 6757.

9. **(4)**
   5432 + 10 tens
   = 5432 + 100
   = 5532

10. **(4)**
    4195 + 10 hundreds
    = 4195 + 1000
    = 5195

11. **(2)**
    3859, 3895, 3958, 3985 is arranged from the smallest to the greatest.

12. **(4)**
    Greatest number formed = 8764

13. **(1)**
    Smallest number formed = 1278

14. **(1)**
    Smallest even number = 2468

15. **(4)**
    Greatest odd number = 9753

Exercise 3

1. In 6835, the place value of the digit 8 is **hundreds**.

2. 6400 = 640 tens
   There are **640** tens in 6400.

3. 28 hundreds 13 ones
   = 2800 + 13
   = 2813

   The number between 28 hundreds 13 ones and **2811** is 2812.

   2811, 2812, 2813

4. 6583 = 6000 + **500** + 80 + 3

5. Smallest odd number formed
   = **1359**

6. Greatest even number formed
   = **8642**

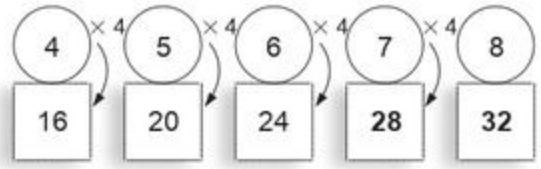
Achieve

Exercise 1

1.

3	× 3 →	9
4	× 4 →	16
5	× 5 →	25
6	× 6 →	36
7	× 7 →	**49**
8	× 8 →	**64**

2.



3. 15 + 16 + 17 + 18 + 19 = 85
   The five consecutive numbers are:
   15, 16, 17, 18, 19

4. 5 × 6 × 7 = 210
   The three consecutive numbers are:
   5, 6, 7.

5.

   1 + 2 + 3 + 4 + 5 + 6 = 21
   There should be **21** faces in the next box.

6. 10 × 10 = 100
   There should be **100** cubes in the next box.

7.

Unit 2 Addition And Subtraction Within 10 000

Drills

Exercise 1

1.

(a) $\begin{array}{r} 2041 \\ +\ \ 36 \\ \hline 2077 \end{array}$	(b) $\begin{array}{r} 7120 \\ +\ \ 575 \\ \hline 7695 \end{array}$	(c) $\begin{array}{r} 3252 \\ +1423 \\ \hline 4675 \end{array}$
(d) $\begin{array}{r} 586 \\ +713 \\ \hline 1299 \end{array}$	(e) $\begin{array}{r} 45^{1}38 \\ +\ \ 57 \\ \hline 4595 \end{array}$	(f) $\begin{array}{r} {}^{1}6{}^{1}074 \\ +2929 \\ \hline 9003 \end{array}$
(g) $\begin{array}{r} {}^{1}5{}^{1}3{}^{1}27 \\ +2885 \\ \hline 8212 \end{array}$	(h) $\begin{array}{r} {}^{1}6{}^{1}8{}^{1}79 \\ +1962 \\ \hline 8841 \end{array}$	(i) $\begin{array}{r} {}^{1}7{}^{1}3{}^{1}68 \\ +1835 \\ \hline 9203 \end{array}$
(j) $\begin{array}{r} 36^{1}35 \\ +2235 \\ \hline 5870 \end{array}$	(k) $\begin{array}{r} 2{}^{1}1{}^{1}56 \\ +\ \ 888 \\ \hline 3044 \end{array}$	(l) $\begin{array}{r} {}^{1}5{}^{1}2{}^{1}76 \\ +3724 \\ \hline 9000 \end{array}$

2.

(a) $\begin{array}{r} 3843 \\ -\ \ 742 \\ \hline 3101 \end{array}$	(b) $\begin{array}{r} 8675 \\ -\ \ 524 \\ \hline 8151 \end{array}$	(c) $\begin{array}{r} 5899 \\ -3128 \\ \hline 2771 \end{array}$
(d) $\begin{array}{r} 9653 \\ -3203 \\ \hline 6450 \end{array}$	(e) $\begin{array}{r} 23{}^{5}6{}^{17}7 \\ -1159 \\ \hline 1208 \end{array}$	(f) $\begin{array}{r} 4{}^{2}3{}^{10}05 \\ -2162 \\ \hline 2143 \end{array}$
(g) $\begin{array}{r} {}^{2}3{}^{12}3{}^{10}1{}^{13}3 \\ -1856 \\ \hline 1457 \end{array}$	(h) $\begin{array}{r} {}^{5}6{}^{15}93 \\ -4652 \\ \hline 1941 \end{array}$	(i) $\begin{array}{r} {}^{0}1{}^{14}5{}^{9}0{}^{10}0 \\ -\ \ 845 \\ \hline 655 \end{array}$
(j) $\begin{array}{r} {}^{7}8{}^{13}386 \\ -7472 \\ \hline 914 \end{array}$	(k) $\begin{array}{r} {}^{8}9{}^{9}0{}^{10}09 \\ -3553 \\ \hline 5456 \end{array}$	(l) $\begin{array}{r} {}^{4}5{}^{9}0{}^{9}0{}^{10}0 \\ -2969 \\ \hline 2031 \end{array}$
(m) $\begin{array}{r} {}^{6}7{}^{9}0{}^{9}0{}^{11}1 \\ -3294 \\ \hline 3707 \end{array}$	(n) $\begin{array}{r} {}^{5}6{}^{9}0{}^{9}0{}^{10}0 \\ -4194 \\ \hline 1806 \end{array}$	(o) $\begin{array}{r} {}^{7}8{}^{10}1{}^{9}0{}^{10}0 \\ -5219 \\ \hline 2881 \end{array}$

Exercise 2

1. 2414 + 1846 = **4260**
2. 2426 + 2334 = **4760**
3. 7631 – 3525 = **4106**
4. 7453 – 5321 = **2132**
5. 2856 – 1247 = **1609**
6. 5000 – 1256 = **3744**
7. 7456 – 1746 = **5710**
8. 6344 – 1945 = **4399**

Perform

Exercise 1

No.	1st No.	2nd No.	Sum	Difference
Example	**3246**	**1757**	**5003**	**1489**
1.	6707	**1868**	8575	**4839**
2.	**2866**	1208	**4074**	1658
3.	5385	2089	**7474**	**3296**
4.	**5062**	4508	9570	**554**
5.	5003	**1756**	6759	**3247**
6.	4365	2740	**7105**	**1625**
7.	3256	**3129**	6385	**127**
8.	4050	**2810**	**6860**	1240
9.	6106	1007	**7113**	**5099**
10.	**4261**	1023	5284	**3238**
11.	7262	**2519**	9781	**4743**
12.	4621	4229	**8850**	**392**
13.	4621	**2869**	7490	**1752**
14.	3240	**2982**	**6222**	258
15.	5135	3624	**8759**	**1511**
16.	**4479**	4211	8690	**268**
17.	5827	**2415**	**8242**	3412
18.	6424	2142	**8566**	**4282**
19.	4064	**3521**	7585	**543**
20.	4439	**1469**	5908	**2970**

Exercise 2

1. **(2)**
   25 tens + 2550
   = 250 + 2550
   = 2800
   = 28 hundreds

2. **(3)**
   Five thousand – 31 tens
   = 5000 – 310
   = 4690

3. **(2)**
   3050 – 1025 = 2025
   2025 – 500 = 1525
   3050 – 1025 = [1525] + 500

4. **(1)**

$$\begin{array}{r} {}^{1}5\ {}^{1}6\ {}^{1}4\ 8 \\ +\ 2\ \boxed{3}\ 8\ 2 \\ \hline 8\ 0\ 3\ 0 \end{array}$$

Exercise 3

1. [**3420**] + 150 = 3570 ← 3570 – 150 = 3420
2. [**6567**] – 2890 = 3677 ← 3677 + 2890 = 6567
3. 1905 + [**5029**] = 6934 ← 6934 – 1905 = 5029
4. 6980 – [**4105**] = 2875 ← 6980 – 2875 = 4105
5. 6100 + [**1950**] = 8050 ← 8050 – 6100 = 1950

Exercise 4

Greatest — Smallest

1. 7532 + 2357 = **9889**

2.

	B	5012	
3378	3506	A	
378	3000	506	1000

A = 506 + 1000
= **1506**

B = 3378 + 3506
= **6884**

Achieve

Exercise 1

1.
$$\begin{array}{r} {}^{1}2\,\boxed{5}\,{}^{1}7\;3 \\ +\;5\;4\;\boxed{6}\;8 \\ \hline 8\;0\;4\;1 \end{array}$$

2.
$$\begin{array}{r} {}^{1}3\,\boxed{7}\,{}^{1}4\;5 \\ +\;1\;2\;5\;\boxed{7} \\ \hline 5\;0\;\boxed{0}\;2 \end{array}$$

3.
$$\begin{array}{r} {}^{1}6\;8\,\boxed{3}\,7 \\ +\;\boxed{2}\;2\;5\;\boxed{9} \\ \hline 9\;0\;9\;6 \end{array}$$

4.
$$\begin{array}{r} 5\;3\;\boxed{7}\;4 \\ -\;2\;\boxed{0}\;2\;3 \\ \hline 3\;3\;5\;1 \end{array}$$

5.
$$\begin{array}{r} 9\;{}^{5}\cancel{6}\;{}^{10}\cancel{1}\;\boxed{{}^{10}0} \\ -\;5\;4\;\boxed{3}\;2 \\ \hline 4\;1\;7\;8 \end{array}$$

6.
$$\begin{array}{r} {}^{6}\cancel{7}\;{}^{17}\cancel{7}\;{}^{4}5\;\boxed{{}^{14}\cancel{4}} \\ -\;3\;\boxed{8}\;2\;7 \\ \hline \boxed{3}\;9\;2\;7 \end{array}$$

Challenge

Exercise 1

1. Make a list.

Way	5	10	15	20	25	30	35	40	Total score
1.	✓✓							✓	5 + 5 + 40 = 50
2.	✓	✓					✓		5 + 10 + 35 = 50
3.	✓		✓			✓			5 + 15 + 30 = 50
4.	✓			✓	✓				5 + 20 + 25 = 50
5.		✓✓				✓			10 + 10 + 30 = 50
6.		✓	✓		✓				10 + 15 + 25 = 50
7.		✓		✓✓					10 + 20 + 20 = 50
8.			✓✓	✓					15 + 15 + 20 = 50

There are **8** ways.

2.

Thousands	Hundreds	Tens	Ones
4	3	2	9

The digit in the thousands place is twice the digit in the tens place.
Sum = 4 + 2
= 6

The digit in the ones place is thrice the digit in the hundreds place.
Sum = 9 + 3
= 12

The number is **4329**.

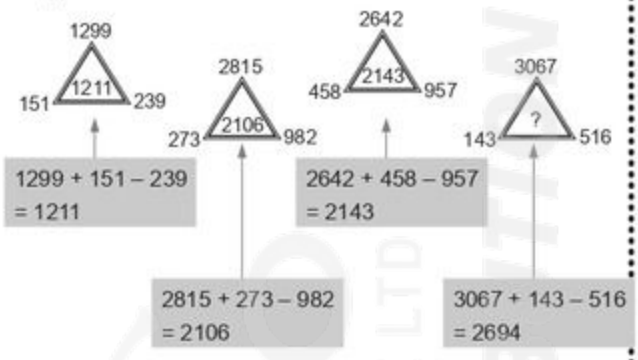
3. 3 digits that make 14:
1 + 4 + 9, 1 + 5 + 8, 1 + 6 + 7,
1 + 7 + 6, 2 + 3 + 9, 2 + 4 + 8,
2 + 5 + 7, 2 + 6 + 6

3 digits that make 15:
1 + 5 + 9, 1 + 6 + 8, 1 + 7 + 7,
2 + 4 + 9, 2 + 5 + 8, 2 + 6 + 7

Possible pairs of page numbers:
158 and 159, 167 and 168,
176 and 177, 248 and 249,
257 and 258, 266 and 267

∴ There are **6** possible pairs of page numbers.

4.



The missing number is **2694**.

5.

4	11	6
9	7	5
8	3	10

→

9	**16**	11
14	12	**10**
13	**8**	15

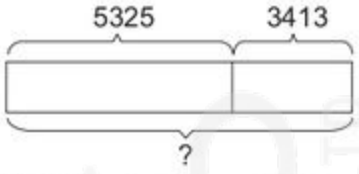
Add each number in the magic square on the left by 5 to obtain the number of the same position, in the magic square on the right.

Unit 3 Solving Word Problems Involving Addition And Subtraction

Perform

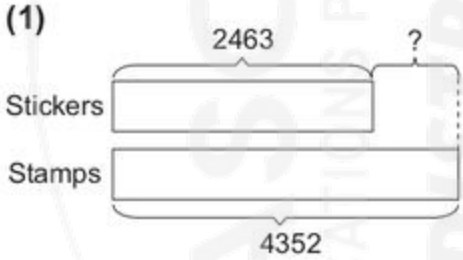
Exercise 1

1. **(4)**



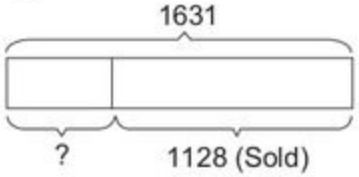
5325 + 3413 = 8738
He sold 8738 eggs in all.

2. **(1)**



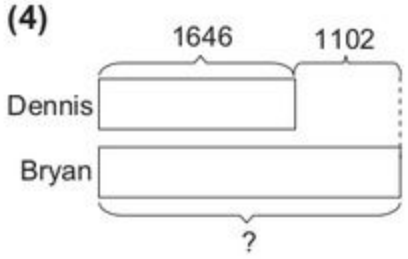
4352 – 2463 = 1889
She collected 1889 fewer stickers than stamps.

3. **(2)**



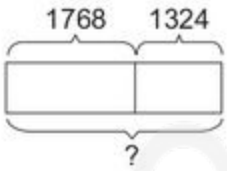
1631 – 1128 = 503
She had 503 cookies left.

4. **(4)**



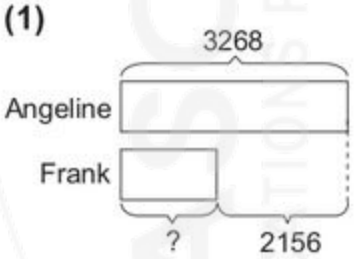
1646 + 1102 = 2748
Bryan sold 2748 tickets.

5. **(2)**



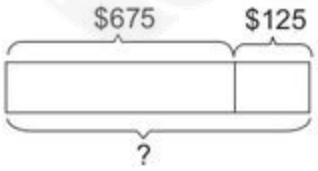
1768 + 1324 = 3092
They made 3092 bracelets altogether.

6. **(1)**



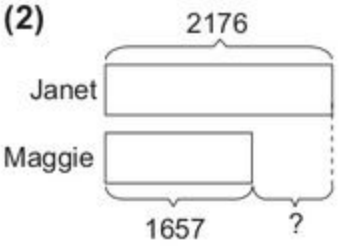
3268 – 2156 = 1112
Frank collected 1112 erasers.

7. **(3)**



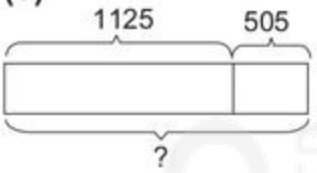
$675 + $125 = $800
He had $800 at first.

8. **(2)**



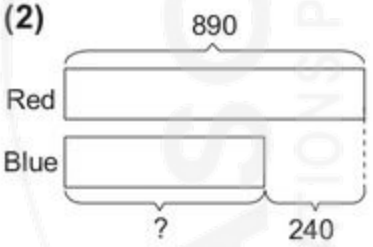
2176 – 1657 = 519
Janet sewed 519 more dresses than Maggie.

9. **(3)**



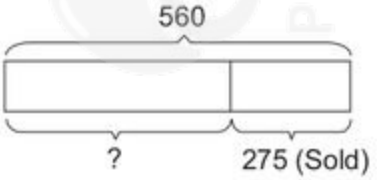
1125 + 505 = 1630
He has 1630 stamps altogether.

10. **(2)**



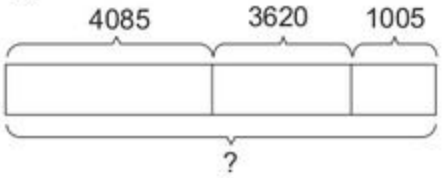
890 – 240 = 650
She bought 650 blue paper clips.

11. **(2)**



560 – 275 = 285
She had 285 pineapple tarts left.

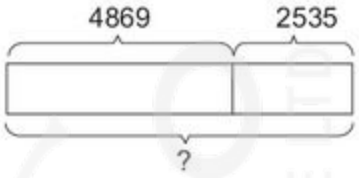
12. **(4)**



4085 + 3620 = 7705
7705 + 1005 = 8710
8710 people visited the museum last month.

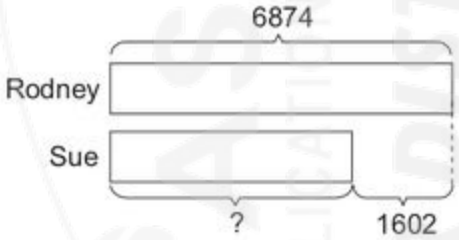
Exercise 2

1.



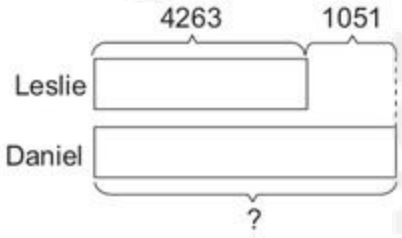
4869 + 2535 = 7404
He sold **7404** postcards altogether.

2.



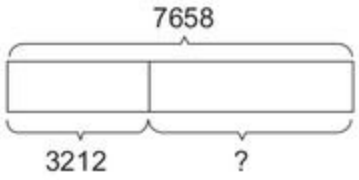
6874 – 1602 = 5272
Sue baked **5272** cupcakes.

3.



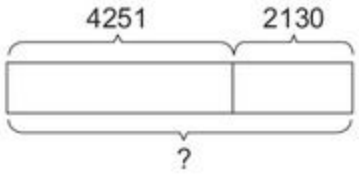
4263 + 1051 = 5314
Daniel folded **5314** paper cranes.

4.



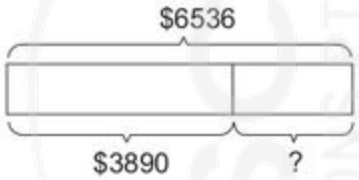
7658 – 3212 = 4446
There were **4446** boys.

5.



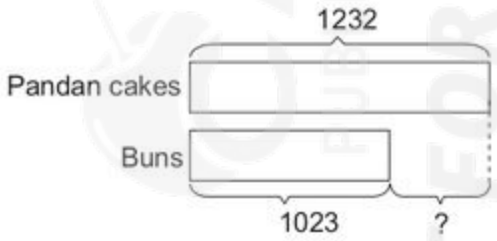
4251 + 2130 = 6381
6381 people went to Sentosa altogether.

6.



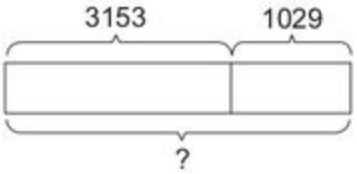
$6536 – $3890 = $2646
Darren donated **$2646**.

7.



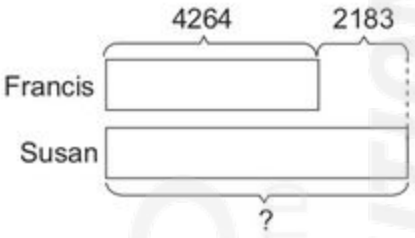
1232 – 1023 = 209
He sold **209** more pandan cakes than buns.

8.



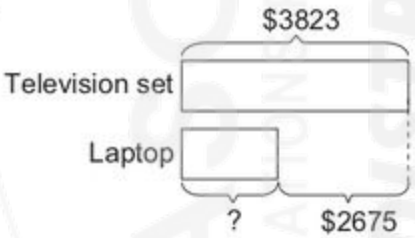
3153 + 1029 = 4182
4182 children visited the library in the two days altogether.

9.



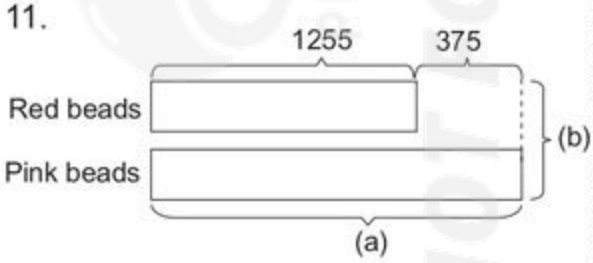
4264 + 2183 = 6447
Susan collected **6447** stickers.

10.



$3823 – $2675 = $1148
She spent **$1148** on the laptop.

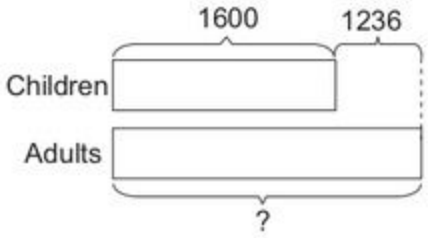
11.



(a) 1255 + 375 = 1630
Amanda had **1630** pink beads.

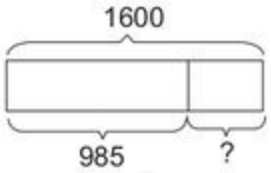
(b) 1255 + 1630 = 2885
She had **2885** beads altogether.

12. (a)



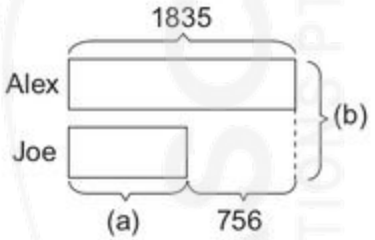
1600 + 1236 = 2836
There were **2836** adults.

(b)



1600 – 985 = 615
There were **615** girls.

13.



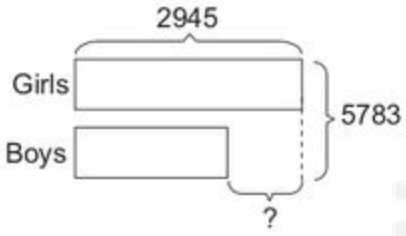
(a) 1835 – 756 = 1079
Joe had **1079** marbles.

(b) 1835 + 1079 = 2914
They have **2914** marbles altogether.

Achieve

Exercise 1

1.

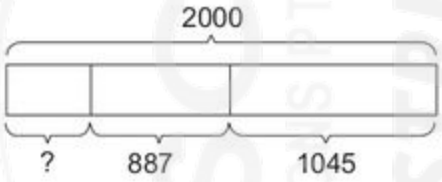


5783 – 2945 = 2838
There were 2838 boys.

2945 – 2838 = 107

There were **107** more girls than boys.

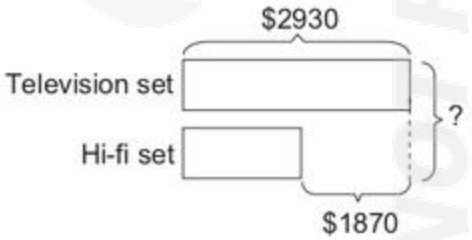
2.



1045 + 887 = 1932
He sold 1932 sticks of satay altogether.

2000 – 1932 = 68
68 sticks of satay were left.

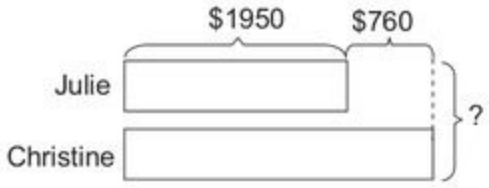
3.



$2930 – $1870 = $1060
The hi-fi set costs $1060.

$2930 + $1060 = $3990
Both items cost **$3990** altogether.

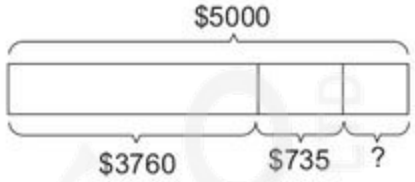
4.



$1950 + $760 = $2710
Christine saves $2710 every month.

$1950 + $2710 = $4660
Both of them save **$4660** every month.

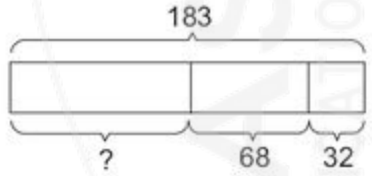
5.



$3760 + $735 = $4495
$5000 – $4495 = $505

He must deposit **$505** more.

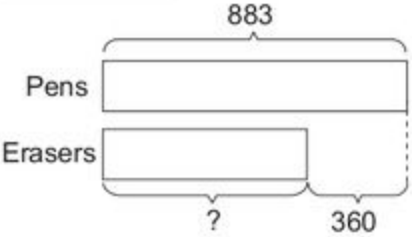
6.



68 + 32 = 100
183 – 100 = 83

83 balloons were left.

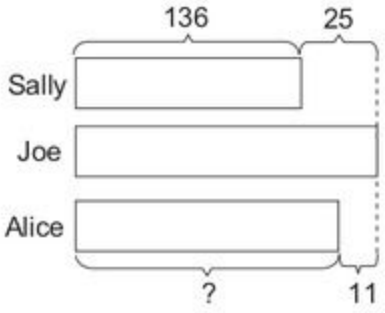
7. <u>In the end:</u>



1806 – 923 = 883
He had 883 pens in the end.

883 – 360 = 523
The shopkeeper had **523** erasers.

8.



136 + 25 = 161
Joe has 161 stamps.

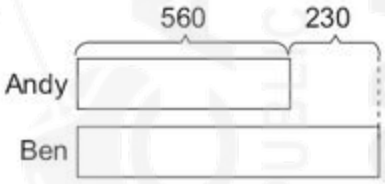
161 – 11 = 150
Alice has **150** stamps.

9. Work backwards.

130
+ 15
145
– 68
77

Lisa had **77** stickers at first.

10.



560 + 230 = 790
Ben received 790 game cards.

2000 – 560 – 790 = 650
Charlie received **650** game cards.

Challenge

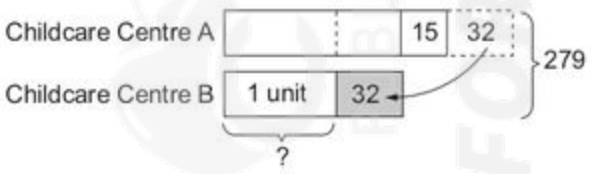
Exercise 1

1. 60 = 20 + 20 + 20
Each of them had 20 sweets in the end.

Before Dorothy gave Jing Mei as many sweets as Jing Mei had.	Jing Mei had (20 ÷ 2 = 10) sweets. Dorothy had (20 + 10 = 30) sweets.
Before Alex gave Dorothy as many sweets as Dorothy had.	Dorothy had (30 ÷ 2 = 15) sweets. Alex had (20 + 15 = 35) sweets.

∴ Alex had **35** sweets, Dorothy had **15** sweets and Jing Mei had **10** sweets at first.

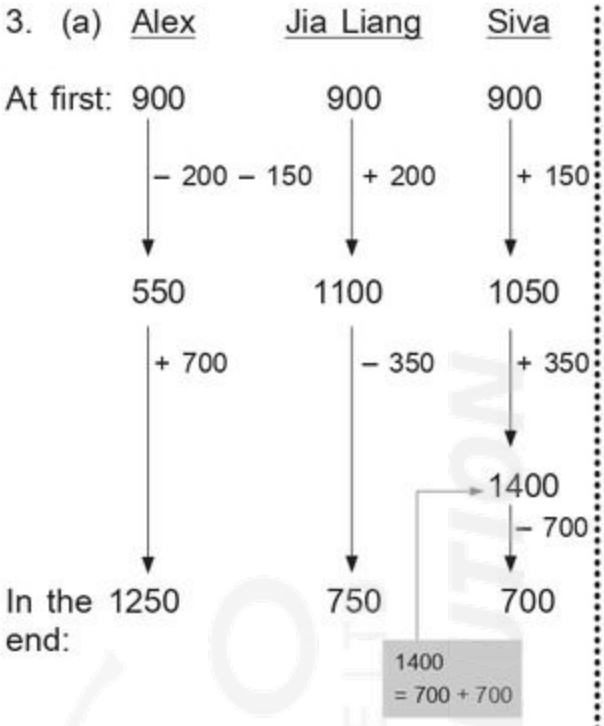
2. After:



2 units = 279 – 32 – 32 – 15
= 200 children
1 unit = 200 ÷ 2
= 100 children

There were **100** children in Childcare Centre B before the transfer.

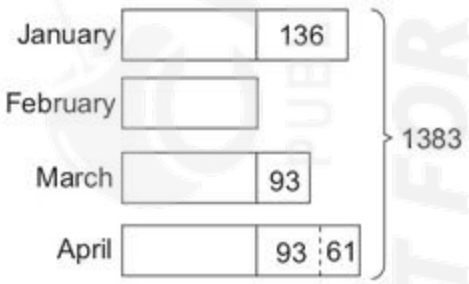
3. (a)



Alex had **1250** cookies, Jia Liang had **750** cookies and Siva had **700** cookies in the end.

(b) **Alex** had the most cookies in the end.

4.



4 units = 1383 – 136 – 93 – 93 – 61
= 1000 stamps
1000 = 250 + 250 + 250 + 250
1 unit = 250 stamps

250 + 93 = 343
Nora collected **343** stamps in March.

Unit 4 Multiplication Tables of 6, 7, 8 and 9

Drills

Exercise 1

1. 7 groups of 3
   = 7 × 3
   = **21**

2. 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4
   = **9** × **4**
   = **36**

3. 9 × 3 = **27**

4. 2 groups of **9** is 18.

5. 3 × 5 = **5** + **5** + **5** = **15**

6. 35 ÷ 5 = **7**

7. 40 ÷ 5 = 8
   There are **8** groups of 5 stickers.

8. 28 ÷ 4 = 7
   7 groups of 4 is 28.

9. 10 + 10 + 10 + 10 + 10
   = **5** × **10**
   = **50**

10. 50 ÷ **10** = 5

11. 2 × 8 = **8** + **8** = **16**

12. 32 ÷ 4 = 8
    Each child received **8** sweets.

13. $27 \div 3 = 9$
There are **9** pens in each container.

14. $7 \times 5 = 35$
7 groups of 5 muffins is the same as **35** muffins.

Exercise 2

1. **6**, 12, **18**, **24**, 30, **36**, 42, **48**, **54**, **60**

2. 7, **14**, **21**, 28, **35**, **42**, **49**, 56, **63**, **70**

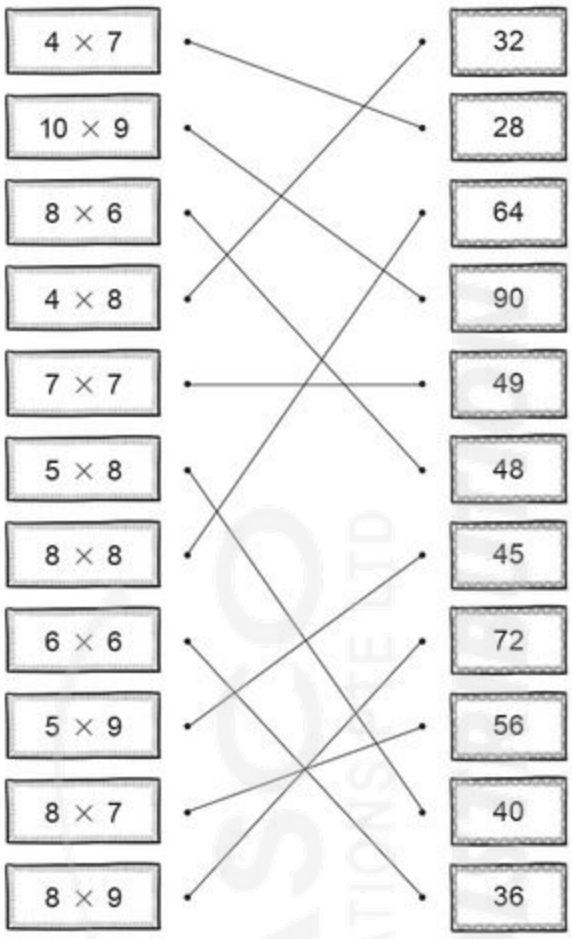
3. **8**, **16**, **24**, 32, **40**, **48**, **56**, 64, **72**, **80**

4. **9**, **18**, 27, **36**, **45**, 54, **63**, 72, **81**, **90**

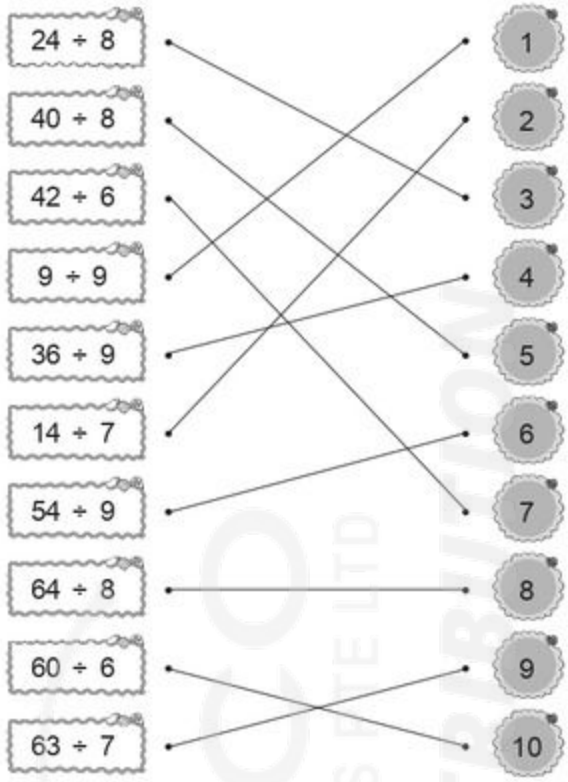
Exercise 3

1. 36	2. 54
3. 24	4. 42
5. 35	6. 56
7. 21	8. 49
9. 16	10. 80
11. 64	12. 48
13. 63	14. 27
15. 81	16. 45
17. 28	18. 32
19. 72	20. 90
21. 30	22. 14

Exercise 4



Exercise 5

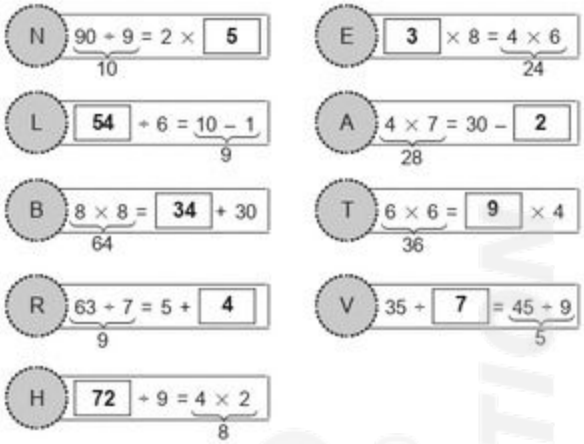


Exercise 6

1. 3
2. 8
3. 5
4. 9
5. 4
6. 7
7. 6
8. 9
9. 6
10. 5
11. 21
12. 48
13. 64
14. 36
15. 30
16. 56
17. 90
18. 63
19. 32
20. 45

Perform

Exercise 1



B	E	T	T	E	R		L	A	T	E
34	3	9	9	3	4		54	2	9	3

T	H	A	N		N	E	V	E	R
9	72	2	5		5	3	7	3	4

Exercise 2

1. $36 \div 4 = 9$

   Each  stands for **9**.

2. $3 \times 6 = 18$
   $5 \times 8 = 40$
   $18 + 40 = 58$

   He has **58** torches.

3. $7 \times 3 = 21$
   $9 \times 4 = 36$
   $21 + 36 = 57$

   He would use **57** matchsticks.

Exercise 3

1. **(3)**
   $48 \div 8 = 6$
   The number is 6.

2. **(2)**
   $72 \div 9 = 8$
   The number is 8.

3. **(1)**
   $54 \div 6 = 9$
   The number is 9.

4. **(3)**
   $63 \div 9 = 7$
   The number is 7.

5. **(4)**
   $\underbrace{6 \times 6}_{36} = 4 \times 9$

6. **(3)**
   $8 \times 8 = \underbrace{52 + 12}_{64}$

7. **(1)**
   $5 \times 7 = \underbrace{50 - 15}_{35}$

8. **(3)**
   $81 \div 9 = \underbrace{6 + 3}_{9}$

Exercise 4

1. $54 \div 9 = 6$
   There are **6** buns in each bag.

2. $7 \times 8 = 56$
   He bought **56** cookies altogether.

3. $48 \div 6 = 8$
   Each child gets **8** balloons.

4. $4 \times 8 = 32$
   Jack has **32** toy cars.

5. $49 \div 7 = 7$
   She used **7** beads for each bracelet.

Achieve

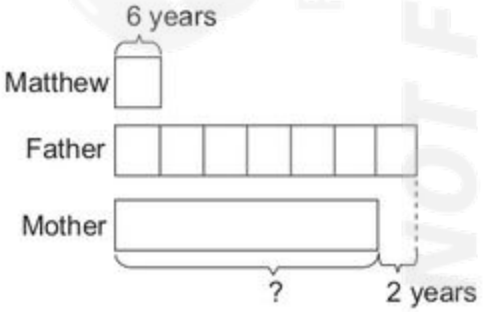
Exercise 1

1. $4 \times 6 = 24$
   $24 + 8 = 32$
   There are **32** mangoes and durians altogether.

2. $9 \times \$4 = \$36$
   $\$36 - \$30 = \$6$
   He needs **$6** more.

3. $8 \times 7 = 56$
   $56 + 56 = 112$
   There are **112** stamps.

4. $\$10 - \$7 = \$3$
   $9 \times \$3 = \$27$
   He saves **$27** in 9 days.

5. 

   $7 \times 6 = 42$
   His father is 42 years old.

   $42 - 2 = 40$
   His mother is **40** years old.

6. 3 + 4 = 7
   9 × 7 = 63
   There are **63** children altogether.

7. 5 × $7 = $35
   8 × $4 = $32
   $35 + $32 = $67
   I spent **$67**.

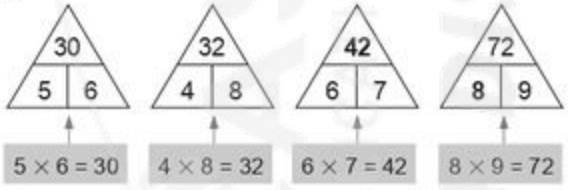
8. $4 + $5 = $9
   7 × $9 = $63
   They would save **$63** altogether in a week.

9. 3 + 5 = 8
   7 x 8 = 56
   There are **56** visitors.

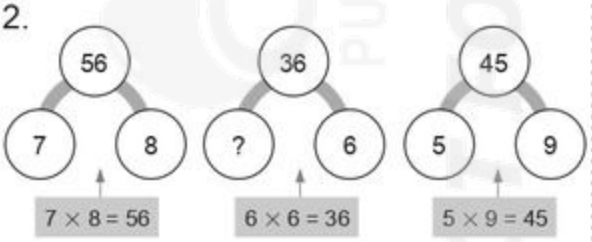
Challenge

Exercise 1

1.

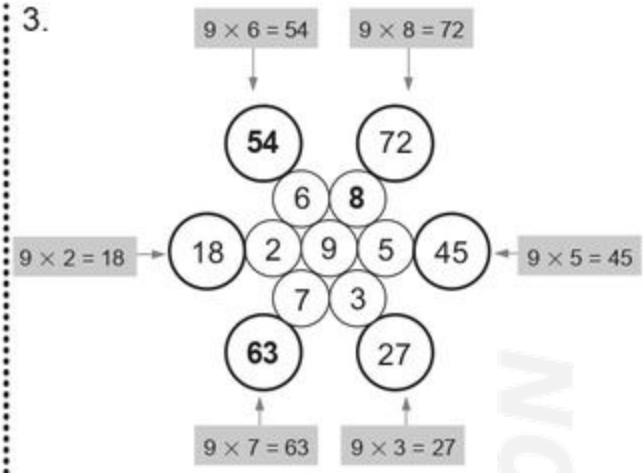


2.

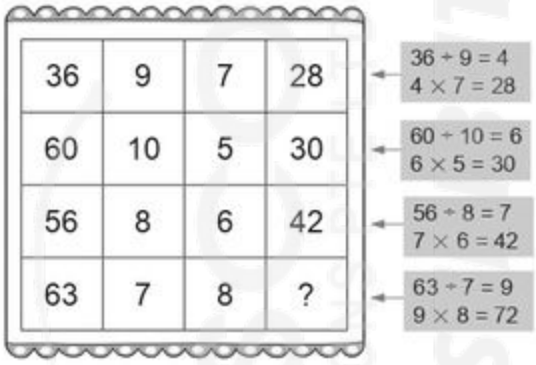


The missing number is **6**.

3.



4.



The missing number is **72**.

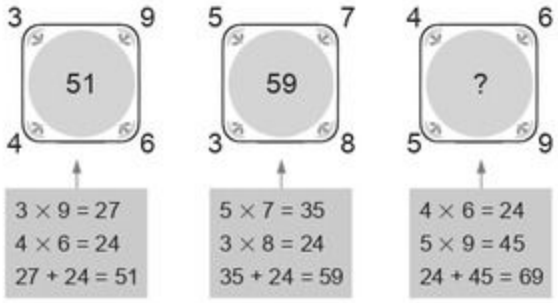
5. 6 × 6 = 36

 = 6

 × 6 = 54

 = 54 ÷ 6
= **9**

6.



The missing number is **69**.

7. Use guess and check.

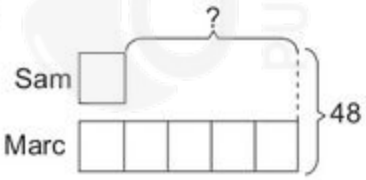
Number of small bags	Number of oranges in small bags	Number of big bags	Number of oranges in big bags	Total number of oranges	Check
5	5 × 6 = 30	5	5 × 9 = 45	30 + 45 = 75	✗
(6)	6 × 6 = 36	4	4 × 9 = 36	36 + 36 = 72	✓

He packed **6** small bags of oranges.

8. 8 – 2 = 6
6 × 9 = 54
He had **54** erasers left.

9. 9 × 7 = 63
63 + 6 = 69
Jane's father gave her **69** stickers.

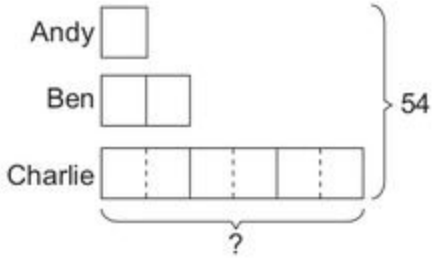
10.



6 units = 48 game cards
1 unit = 48 ÷ 6
= 8 game cards
4 units = 4 × 8
= 32 game cards

Marc has **32** more game cards than Sam.

11.



9 units = 54 marbles
1 unit = 54 ÷ 9
= 6 marbles
6 units = 6 × 6
= 36 marbles

Charlie has **36** marbles.

12. Groups of 6: 6, 12, 18, 24, 30, 36, (42), 48, 54, …

Groups of 8 + 2: 10, 18, 26, 34, (42), 50, …

Groups of 9 + 6: 15, 24, 33, (42), 51, …

She made **42** doughnuts.

Unit 5 Multiplication And Division

Drills

Exercise 1

1.

(a) $^{3}7\ 5 \times 6 = 450$	(b) $^{3}4\ 8 \times 4 = 192$	(c) $^{5}8\ 6 \times 9 = 774$
(d) $^{2}2\ ^{2}6\ 9 \times 3 = 807$	(e) $^{4}5\ ^{1}6\ 2 \times 7 = 3934$	(f) $^{2}6\ ^{4}2\ 5 \times 8 = 5000$
(g) $^{2}8\ ^{1}5\ 3 \times 5 = 4265$	(h) $4\ ^{7}0\ 8 \times 9 = 3672$	(i) $^{1}9\ 2\ 0 \times 6 = 5520$
(j) $^{5}7\ ^{2}8\ 4 \times 7 = 5488$	(k) $^{7}6\ ^{4}9\ 6 \times 8 = 5568$	(l) $^{4}5\ ^{5}4\ 7 \times 9 = 4923$

2.

(a) $6\overline{)77}$: 6, 17, 12, 5 Quotient = **12** Remainder = **5**	(b) $7\overline{)95}$: 7, 25, 21, 4 Quotient = **13** Remainder = **4**
(c) $8\overline{)99}$: 8, 19, 16, 3 Quotient = **12** Remainder = **3**	(d) $9\overline{)128}$: 9, 38, 36, 2 Quotient = **14** Remainder = **2**

3.

(a) $4\overline{)856} = 214$: 8, 5, 4, 16, 16, 0	(b) $5\overline{)655} = 131$: 5, 15, 15, 05, 5, 0
(c) $6\overline{)486} = 81$: 48, 06, 6, 0	(d) $7\overline{)924} = 132$: 7, 22, 21, 14, 14, 0
(e) $8\overline{)752} = 94$: 72, 32, 32, 0	(f) $9\overline{)801} = 89$: 72, 81, 81, 0

Exercise 2

1. $548 \times 5 = \mathbf{2740}$

2. $327 \times 6 = \mathbf{1962}$

3. $213 \times 4 = \mathbf{852}$

4. 76 tens $\times$ 5
   = 760×5
   = 3800
   = **380** tens

5. 4 hundreds $\times$ 7
   = 400×7
   = **2800**

6. 25 tens $\times$ 2
   = 250×2
   = 500
   = **5** hundreds

7. $309 \times 6 = 1854$
   1854 – 100 tens
   = 1854 – 1000
   = **854**

8. $923 \times 6 = 5538$
   5538 + 54 = **5592**

9. $259 \times 8 = (\mathbf{200} \times 8) + (50 \times 8) + (9 \times 8)$

10. $75 \times 8 = 600$
    $600 \div 5 = 120$
    There are **120** fives in 75×8.

11. $534 \times 7 = 3738$
    3738 – 658 = **3080**

12. $654 \times 3 = 1962$
    1962 + 538 = **2500**

Exercise 3

1. $648 \div 8 = \mathbf{81}$

2. 43 tens $\div$ 5
   = $430 \div 5$
   = 86
   The quotient is **86** ones.

3. $45 \div 9 = 5$
   54 + 5 = 59
   The answer is **59**.

4. $482 \div 7 = 68$ R 6
   28 – 6 = 22
   The answer is **22**.

5. 100 – 1 = 99
   $99 \div 9 = 11$
   The smallest number that must be subtracted is **1**.

6. $540 \div 6 = 90$
   $90 \div 5 = 18$
   There are **18** fives in $540 \div 6$.

7. $102 \times 7 = 714$
   714 + 6 = 720
   The number is **720**.

8. $11 \times 7 = \mathbf{77}$

9. 60 tens $\div$ 5 ones
   $600 \div 5 = \mathbf{120}$

10. $8 \times 7 = 56$
    56 – 52 = 4
    The minimum number that must be added is **4**.

Exercise 4

No.	1st No.	2nd No.	Product	Quotient	Remainder
Example	**241**	**5**	**1205**	**48**	**1**
1.	165	6	**990**	**27**	**3**
2.	328	9	**2952**	**36**	**4**
3.	576	8	**4608**	**72**	**0**
4.	856	7	**5992**	**122**	**2**
5.	745	6	**4470**	**124**	**1**
6.	**78**	7	546	**11**	**1**
7.	45	8	**360**	5	**5**
8.	**341**	5	**1705**	68	1
9.	**92**	4	368	**23**	**0**
10.	28	9	**252**	3	1
11.	**606**	9	**5454**	67	3
12.	**67**	8	536	**8**	**3**
13.	715	3	**2145**	**238**	1
14.	**625**	7	**4375**	89	2
15.	**87**	6	522	**14**	**3**
16.	803	7	**5621**	114	**5**
17.	**526**	9	**4734**	58	4
18.	**38**	8	304	**4**	**6**
19.	366	4	**1464**	91	**2**
20.	**105**	2	**210**	52	1

Perform

Exercise 1

1. **(2)**
   $726 \times 8 = 5808$

2. **(2)**
   $94 \div 6 = 15$ R 4
   The remainder is 4.

3. **(2)**
   $6 \times 6 = 36$
   $\square = 6$
   $282 \div \square = 282 \div 6 = 47$

4. **(4)**
   $9 \times 7 = 63$
   $63 + 2 = 65$
   $\boxed{65} \div 7 = 9$ R 2

5. **(1)**
   The possible remainder must be less than 7, i.e. 6.

6. **(2)**
   $609 \div 9 = 67$ R 6
   The quotient is 67.

7. **(4)**
   $32 \times 8 = 256$
   $256 + 2 = 258$
   The number is 258.

Exercise 2

1. $42 \div 6 = 7$
   The number is **7**.

2. $7 \times 108 = 756$
   There are **756** files in all.

3. $546 \div 9 = 60$ R 6
   There are **60** stamps in each album and **6** stamps are left.

4. $8 \times 125 = 1000$
   There are **1000** buttons in all.

5. $750 \div 6 = 125$
   Each friend received **125** candies.

6. $8 \times 187 = 1496$
   There are **1496** mangoes altogether.

7. $868 \div 5 = 173$ R 3
   There are **173** boys in each row and **3** boys did not belong to any row.

8. $5 \times 217 = 1085$
   There were **1085** erasers in all.

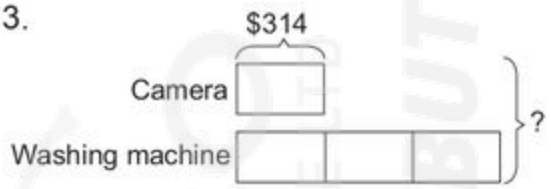
9. $345 \div 9 = 38$ R 3
There are **38** stickers in each album and **3** stickers are left.

10. $\$637 \div 7 = \$91$
Each dress cost **$91**.

11. $6 \times 132 = 792$
He sells **792** tubs of ice-cream in 6 weeks.

12. $256 \div 8 = 32$
Each friend received **32** badges.

13.



1 unit = $314
4 units = $4 \times \$314$
$= \$1256$

Both items cost **$1256** altogether.

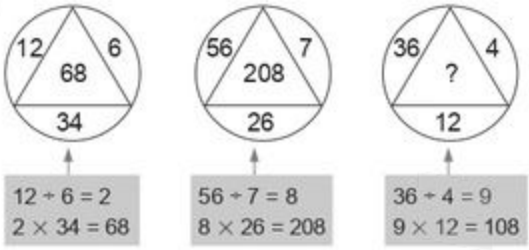
14. $443 + 467 = 910$
$910 \div 7 = 130$

There were **130** children in each group.

Challenge

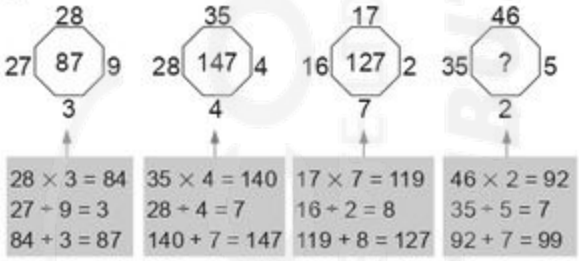
Exercise 1

1.



The missing number is **108**.

2.



The missing number is **99**.

3.  $= 525 \div 5$
$= 105$

 $\times 7 = 105$

 $= 105 \div 7$
$= \mathbf{15}$

4. (a)

$$\begin{array}{r} {}^{6}7\,{}^{3}\boxed{8}\,4 \\ \times \qquad\quad 8 \\ \hline \boxed{6}\,2\,7\,2 \end{array}$$

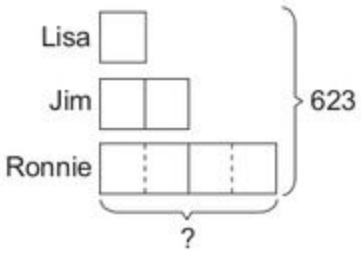
(b)

$$\begin{array}{r} \quad 9\,\boxed{3} \\ 9\overline{)\,8\,\boxed{3}\,9} \\ \quad 8\,1 \\ \hline \quad\; 2\,\boxed{9} \\ \quad\; 2\,7 \\ \hline \quad\quad\; 2 \end{array}$$

5. Group of 4:
4, 8, … , 220, 224, (228)
Groups of 6:
6, 12, 18, …, 216, 222, (228)

Karen is looking for **228**.

6.



7 units = 623 stickers
1 unit = 623 ÷ 7
= 89 stickers
4 units = 4 × 89
= 356 stickers

Ronnie has **356** stickers.

7. Total number of wheels in 1 set of 1 motorcycle and 1 car
= 2 + 4
= 6

Number of sets
= 258 ÷ 6
= 43

43 + 43 = 86

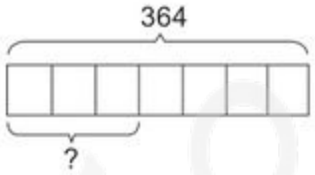
There are **86** motorcycles and cars in the car park altogether.

Unit 6 Solving Word Problems Involving Multiplication And Division

Achieve

Exercise 1

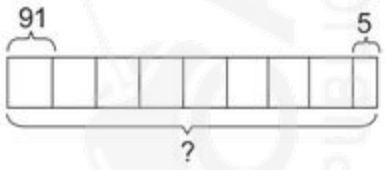
1.



7 units = 364 pencils
1 unit = 364 ÷ 7
= 52 pencils
3 units = 3 × 52
= 156 pencils

There are **156** pencils in 3 such boxes.

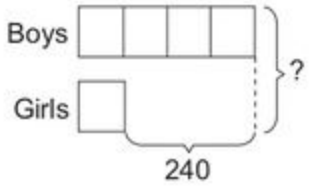
2.



8 × 91 = 728
728 + 5 = 733

Samantha had **733** stickers at first.

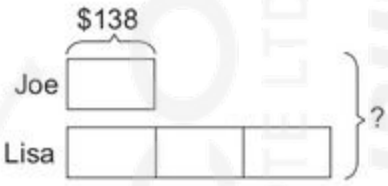
3.



3 units = 240 children
1 unit = 240 ÷ 3
= 80 children
5 units = 5 × 80
= 400

There are **400** children at the toy fair altogether.

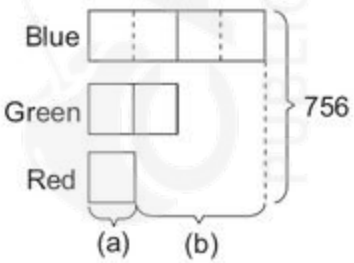
4.



1 unit = $138
4 units = 4 × $138
= $552

They saved **$552** altogether.

5.



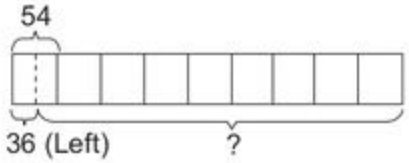
(a) 7 units = 756 marbles
1 unit = 756 ÷ 7
= 108 marbles

He bought **108** red marbles.

(b) 3 units = 3 × 108
= 324 marbles

He bought **324** more blue than red marbles.

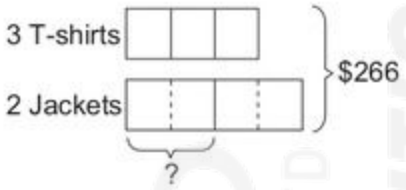
6.



9 × 54 = 486
486 – 36 = 450

Her guests ate **450** chocolates.

7.



7 units = $266
1 unit = $266 ÷ 7
= $38
2 units = 2 × $38
= $76

Each jacket costs **$76**.

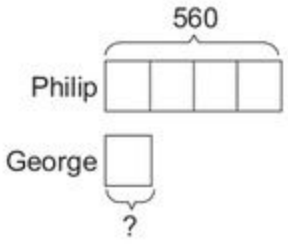
8. (a) 5 × $168 = $840
The 5 bags cost **$840**.

(b) $1000 – $840 = $160
He received **$160** in change.

9. (a) 115 ÷ 9 = 12 R 7
7 tarts were left unpacked.

(b) 12 × $8 = $96
She received **$96** from the sales of the boxes of tarts.

10. (a)



4 units = 560 stamps
1 unit = 560 ÷ 4
= 140 stamps

George collected **140** stamps.

(b) 3 units = 3 × 140
= 420 stamps

420 ÷ 2 = 210

Philip must give **210** stamps to George.

11. (a) 6 × 24 = 144
144 ÷ 5 = 28 R 4

He will get **28** packets of lollipops.

(b) **4** lollipops will be left.

12. 11 × 8 = 88

There were actually **88** children at the outing.

13. 756 + 642 = 1398
1398 ÷ 8 = 174 R 6

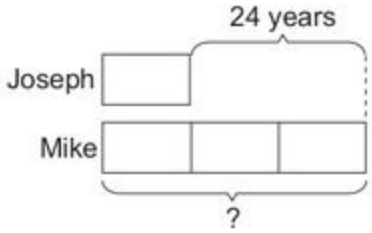
There were **174** children in each team. **6** children were not in any team.

14. 9 × $89 = $801
$1332 – $801 = $531
$531 ÷ 9 = $59
Each winter jacket cost **$59**.

Challenge

Exercise 1

1. In 10 years' time:

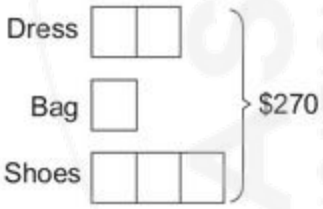


2 units = 24 years
1 unit = 24 ÷ 2
= 12 years
3 units = 3 × 12
= 36 years

36 – 10 = 26

Mike is **26** years old now.

2.



6 units = $270
1 unit = $270 ÷ 6
= $45 (Bag)
2 units = 2 × $45
= $90 (Dress)
3 units = 3 × $45
= $135 (Shoes)

2 × $45 = $90
3 × $90 = $270
2 × $135 = $270

$90 + $270 + $270 = $630

Mrs Tan paid **$630** for her items.

3. Use guess and check.

Number of rulers	Cost of rulers	Number of pens	Cost of pens	Total cost	Check
26	26 × $2 = $52	24	24 × $3 = $72	$52 + $72 = $124	✗
27	27 × $2 = $54	(23)	23 × $3 = $69	$54 + $69 = $123	✓

William bought **23** pens.

4. Use guess and check.

Number of cars	Number of car wheels	Number of lorries	Number of lorry wheels	Total number of wheels	Check
35	35 × 4 = 140	8	8 × 6 = 48	140 + 48 = 188	✗
34	34 × 4 = 136	9	9 × 6 = 54	136 + 54 = 190	✓

34 – 9 = 25

There were **25** more cars than lorries.

5. 1 vase + 2 lamps → $192
×2 ↓ 2 vases + 4 lamps → 2 × $192
= $384
2 vases + 3 lamps → $306

---

1 lamp → $384 – $306 = $78
5 lamps → 5 × $78 = $390

5 lamps cost **$390**.

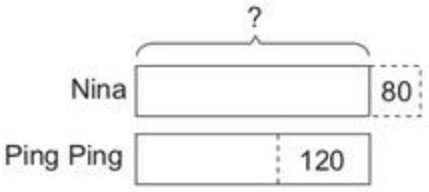
6. Use guess and check.

Number of boys	Number of cookies eaten by the boys	Number of girls	Number of cookies eaten by the girls	Difference	Check
17	17 × 10 = 170	33	33 × 7 = 231	231 – 170 = 61	✗
18	18 × 10 = 180	32	32 × 7 = 224	224 – 180 = 44	✓

32 – 18 = 14

14 more girls than boys attended the party.

7.



1 unit = 120 + 80
= 200 stickers
2 units = 2 × 200
= 400 stickers

400 – 80 = 320

Nina had **320** stickers at first.

8.

Groups of 4 plus 1	5, 9, 13, 17, 21, 25, 29, 33, 37, 41, 45, (49)
Groups of 5 plus 4	9, 14, 19, 24, 29, 34, 39, 44, (49)
Groups of 7	7, 14, 21, 28, 35, 42, (49)

Michelle had **49** seashells.

Unit 7 Money

Drills

Exercise 1

1. 80¢
2. 150¢
3. 505¢
4. 1355¢
5. 800¢
6. 65¢
7. 385¢
8. 905¢
9. 2885¢
10. 5400¢

Exercise 2

1. $5.75
2. $10.10
3. $75.05
4. $2.55
5. $41.60
6. $7.50
7. $32.45
8. $20.50
9. $6.80
10. $20.05

Exercise 3

1. $1 – 65¢ = **35¢**
2. $1 – 90¢ = **10¢**
3. $1 – 55¢ = **45¢**
4. $10 – $2.30 = **$7.70**
5. $10 – $3.85 = **$6.15**
6. $1 – 85¢ = **15¢**
7. $1 – 35¢ = **65¢**
8. $1 – 40¢ = **60¢**
9. $10 – $9.05 = **95¢**
10. $10 – $8.25 = **$1.75**

Exercise 4

1. 5 × 10¢ = **$0.50**
2. 10 × 20¢ = **$2**
3. 5 × $1 = **$5**
4. 25 × 50¢ = **$12.50**
5. 55 × 5¢ = **$2.75**

Exercise 5

1. $3 – $2.35 = **65¢**
2. $8 – $7.80 = **20¢**
3. $7 – $6.50 = **50¢**
4. $12 – $11.80 = **20¢**
5. $24 – $23.05 = **95¢**
6. $9 – $8.15 = **85¢**
7. $11 – $10.20 = **80¢**
8. $22 – $21.35 = **65¢**
9. $76 – $75.60 = **40¢**
10. $43 – $42.15 = **85¢**

Exercise 6

1. 50¢ + $4 = **$4.50**

2. $1 + 10¢ = **$1.10**

3. $5 + 50¢ = **$5.50**

4. $1 + $10 = **$11**

5. 15¢ + $2 = **$2.15**

Exercise 7

2. $10.60 + 55¢ = $11 + 15¢
   40¢ 15¢ = **$11.15**

$$\begin{array}{r} \$^{1}10.60 \\ +\ \$\ 0.55 \\ \hline \$11.15 \end{array}$$

3. $15.40 + 80¢ = $16 + 20¢
   60¢ 20¢ = **$16.20**

$$\begin{array}{r} \$^{1}15.40 \\ +\ \$\ 0.80 \\ \hline \$16.20 \end{array}$$

4. $21.95 + 15¢ = $22 + 10¢
   5¢ 10¢ = **$22.10**

$$\begin{array}{r} \$^{1\,1}21.95 \\ +\ \$\ 0.15 \\ \hline \$22.10 \end{array}$$

5. $38.95 + 50¢ = $39 + 45¢
   5¢ 45¢ = **$39.45**

$$\begin{array}{r} \$^{1}38.95 \\ +\ \$\ 0.50 \\ \hline \$39.45 \end{array}$$

6. $7.35 + 80¢ = $8 + 15¢
   65¢ 15¢ = $8.15

$$\begin{array}{r} \$^{1}7.35 \\ +\ \$\ 0.80 \\ \hline \$\ 8.15 \end{array}$$

7. $8.60 + 75¢ = $9 + 35¢
   40¢ 35¢ = **$9.35**

$$\begin{array}{r} \$^{1}8.60 \\ +\ \$\ 0.75 \\ \hline \$\ 9.35 \end{array}$$

Exercise 8

2. $10.60 + $6.50 = **$17.10**

$$\$10.60 \xrightarrow{+\$6} \$16.60 \xrightarrow{+50¢} \$17.10$$

$$\begin{array}{r} \$^{1}10.60 \\ +\ \$\ 6.50 \\ \hline \$17.10 \end{array}$$

3. $15.40 + $18.80 = **$34.20**

$$\$15.40 \xrightarrow{+\$18} \$33.40 \xrightarrow{+80¢} \$34.20$$

$$\begin{array}{r} \$^{1\,1}15.40 \\ +\ \$18.80 \\ \hline \$34.20 \end{array}$$

4. $21.05 + $25.10 = **$46.15**

$$\$21.05 \xrightarrow{+\$25} \$46.05 \xrightarrow{+10¢} \$46.15$$

$$\begin{array}{r} \$21.05 \\ +\ \$25.10 \\ \hline \$46.15 \end{array}$$

5. $38.95 + $17 = **$55.95**

$38.95 —(+$10)→ $48.95 —(+$7)→ $55.95

$$\begin{array}{r} {\scriptstyle 1}\\ \$38.95\\ +\ \$17.00\\ \hline \$55.95 \end{array}$$

6. $7.35 + $10.10 = **$17.45**

$7.35 —(+$10)→ $17.35 —(+10¢)→ $17.45

$$\begin{array}{r} \$10.10\\ +\ \$\ 7.35\\ \hline \$17.45 \end{array}$$

7. $10.60 + $9.95 = **$20.55**

$10.60 —(+$9)→ $19.60 —(+95¢)→ $20.55

$$\begin{array}{r} {\scriptstyle 1\,1}\\ \$10.60\\ +\ \$\ 9.95\\ \hline \$20.55 \end{array}$$

Exercise 9

2. $23.55 − 30¢ = $22.55 + 70¢
= **$23.25**

$23.55 → $22.55, $1

$$\begin{array}{r} \$23.55\\ -\ \$\ 0.30\\ \hline \$23.25 \end{array}$$

3. $53.10 − 90¢ = $52.10 + 10¢
= **$52.20**

$53.10 → $52.10, $1

$$\begin{array}{r} {\scriptstyle 2\ 11}\\ \$53.10\\ -\ \$\ 0.90\\ \hline \$52.20 \end{array}$$

4. $32.55 − 65¢ = $31.55 + 35¢
= **$31.90**

$32.55 → $31.55, $1

$$\begin{array}{r} {\scriptstyle 1\ 15}\\ \$32.55\\ -\ \$\ 0.65\\ \hline \$31.90 \end{array}$$

5. $75.30 − 75¢ = $74.30 + 25¢
= **$74.55**

$75.30 → $74.30, $1

$$\begin{array}{r} {\scriptstyle 4\ 12\ 10}\\ \$75.30\\ -\ \$\ 0.75\\ \hline \$74.55 \end{array}$$

6. $26.40 − 90¢ = $25.40 + 10¢
= **$25.50**

$26.40 → $25.40, $1

$$\begin{array}{r} {\scriptstyle 5\ 14}\\ \$26.40\\ -\ \$\ 0.90\\ \hline \$25.50 \end{array}$$

7. $71.05 − 40¢ = $70.05 + 60¢
= **$70.65**

$71.05 → $70.05, $1

$$\begin{array}{r} {\scriptstyle 0\ 10}\\ \$71.05\\ -\ \$\ 0.40\\ \hline \$70.65 \end{array}$$

Exercise 10

2. $16.30 − $4.70 = **$11.60**

$16.30 —(−$4)→ $12.30 —(−70¢)→ $11.60

$$\begin{array}{r} {\scriptstyle 5\ 13}\\ \$16.30\\ -\ \$\ 4.70\\ \hline \$11.60 \end{array}$$

3. $36.70 – $8.50 = **$28.20**

$36.70 —(–$8)→ $28.70 —(–50¢)→ $28.20

$$\begin{array}{r} \overset{2}{\$}36.\overset{16}{7}0 \\ -\quad \$\ 8.50 \\ \hline \$28.20 \end{array}$$

4. $86.15 – $12.05 = **$74.10**

$86.15 —(–$12)→ $74.15 —(–5¢)→ $74.10

$$\begin{array}{r} \$86.15 \\ -\quad \$12.05 \\ \hline \$74.10 \end{array}$$

5. $94.35 – $32 = **$62.35**

$94.35 —(–$30)→ $64.35 —(–$2)→ $62.35

$$\begin{array}{r} \$94.35 \\ -\quad \$32.00 \\ \hline \$62.35 \end{array}$$

6. $58.25 – $40.95 = **$17.30**

$58.25 —(–$40)→ $18.25 —(–95¢)→ $17.30

$$\begin{array}{r} \overset{7}{\$}58.\overset{12}{2}5 \\ -\quad \$40.95 \\ \hline \$17.30 \end{array}$$

7. $72.40 – $25 = **$47.40**

$72.40 —(–$20)→ $52.40 —(–$5)→ $47.40

$$\begin{array}{r} \overset{6}{\$}72.\overset{12}{4}0 \\ -\quad \$25.00 \\ \hline \$47.40 \end{array}$$

Perform

Exercise 1

1. **(4)**
   15 x $0.50 = $7.50

2. **(4)**
   $6.70 + $10.85 = $17.55

3. **(1)**
   4 × 20¢ = 80¢
   3 × $1 = $3
   $3 + 80¢ = $3.80

4. **(2)**
   $10 – $5.60 = $4.40

5. **(4)**
   $32.70 – 55¢
   = $32.70 – $0.55
   = $32.15

6. **(3)**
   26 × 20¢ = $5.20

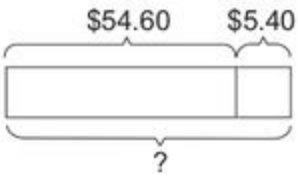
7. **(2)**
   $70 – $68.90 = $1.10

8. **(4)**
   $25.65 – $4.80 = $20.85

9. **(2)**
   9 × 50¢ = $4.50
   10 × $5 = $50
   $50 + $4.50 = $54.50

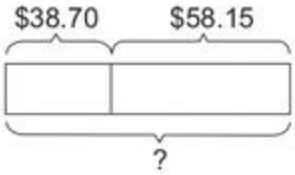
Exercise 2

1.



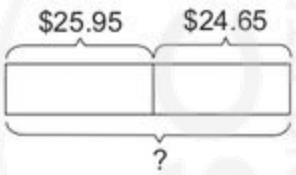
$54.60 + $5.40 = $60
He had **$60** at first.

2.



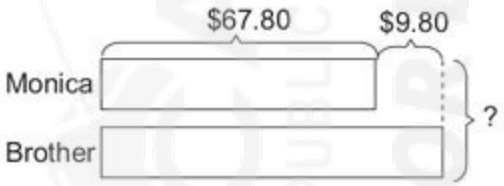
$38.70 + $58.15 = $96.85
She spent **$96.85** in all.

3.



$25.95 + $24.65 = $50.60
She spent **$50.60** in all.

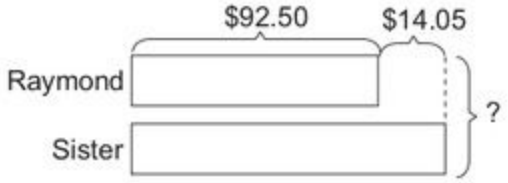
4.



$67.80 + $9.80 = $77.60
Her brother saved $77.60.

$67.80 + $77.60 = $145.40
Both of them saved **$145.40** altogether.

5.

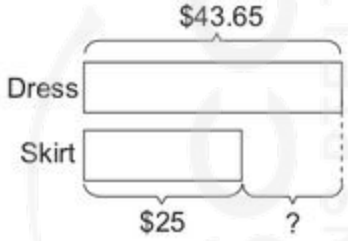


$92.50 + $14.05 = $106.55
His sister earned $106.55.

$92.50 + $106.55 = $199.05
Both of them earned **$199.05** altogether.

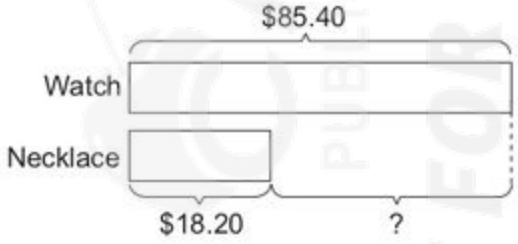
Exercise 3

1.



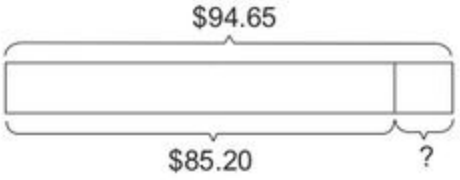
$43.65 – $25 = $18.65
She spent **$18.65** more on the dress than the skirt.

2.



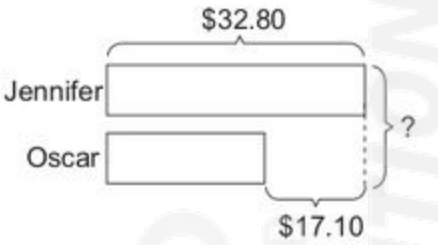
$85.40 – $18.20 = $67.20
Se spent **$67.20** more on the watch than the necklace.

3.



$94.65 – $85.20 = $9.45
She needs **$9.45** more.

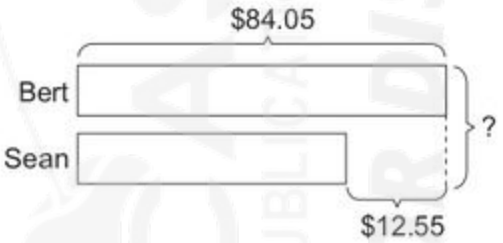
4.



$32.80 – $17.10 = $15.70
Oscar saved $15.70.

$32.80 + $15.70 = $48.50
Both of them saved **$48.50** altogether.

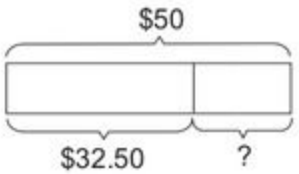
5.



$84.05 – $12.55 = $71.50
$84.05 + $71.50 = $155.55
Both of them spent **$155.55** in all.

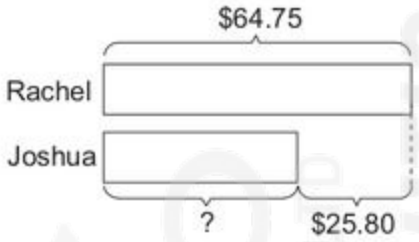
Exercise 4

1.



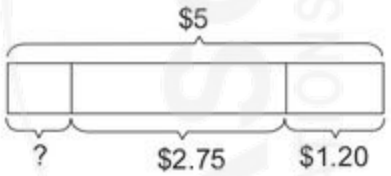
$50 – $32.50 = $17.50
She spent **$17.50** on the pastries.

2.



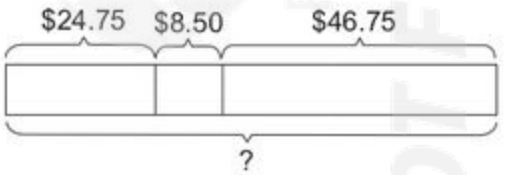
$64.75 – $25.80 = $38.95
Joshua has **$38.95**.

3.



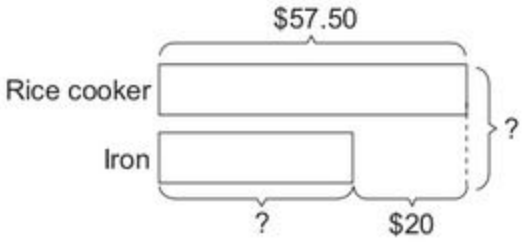
$1.20 + $2.75 = $3.95
$5 – $3.95 = $1.05
She received **$1.05** in change.

4.



$24.75 + $8.50 = $33.25
$33.25 + $46.75 = $80
His mother gave him **$80**.

5.



$57.50 – $20 = $37.50
The iron costs $37.50.

$57.50 + $37.50 = $95
The total cost of both items is **$95**.

Achieve

Exercise 1

1. $6.10 – $3.60 = $2.50
$5 \times 50¢ = \$2.50$
He has **5** 50¢ coins.

2. (a) $18.90 + $14.90 = $33.80
She bought the **doll** and the **toy butterfly**.

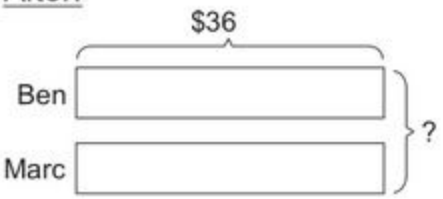
(b) $35 – $33.80 = $1.20
She had **$1.20** left.

3. $10 \div 3 = 3$ R 1
$3 \times \$8 = \$24$
$24 + $2.85 = $26.85

She needs **$26.85**.

4. $48.50 – $12.50 = $36

After:



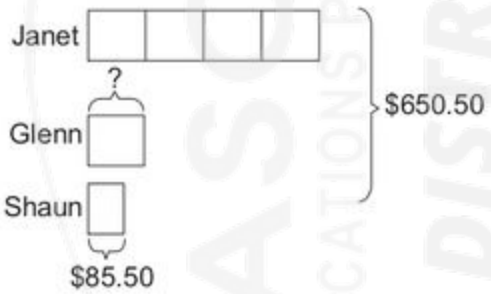
$2 \times \$36 = \$72$
They had **$72** altogether in the end.

5. 2 bags + 1 pair of shoes → $186
1 bag + 1 pair of shoes → $118

1 bag → $186 – $118 = $68
$118 – $68 = $50

The cost of a pair of shoes is **$50**.

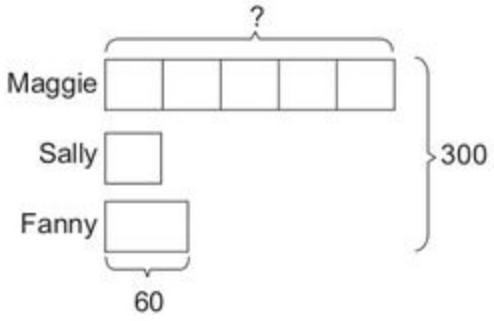
6.



5 units = $650.50 – $85.50
= $565
1 unit = $565 ÷ 5
= $113

Glenn saved **$113**.

7.



6 units = 300 – 60
= 240 stickers
1 unit = 240 ÷ 6
= 40 stickers
5 units = 5 × 40
= 200 stickers

Maggie bought 200 stickers.

200 × $2 = $400

Maggie spent **$400**.

8. 7 × $13 = $91
$1034 – $91 = $943

He has **$943** left after a week.

9. $300 – $12 = $288
$288 ÷ 8 = $36

Each dress cost **$36**.

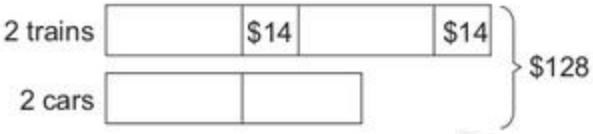
10. 15 ÷ 5 = 3
15 × $3 = $45
3 × $5 = $15
$45 + $15 = $60

He earns **$60** if he sells 15 kites.

Challenge

Exercise 1

1.



4 units = $128 – $14 – $14
= $100
1 unit = $100 ÷ 4
= $25

 = $25

 = $25 + $14 = $39

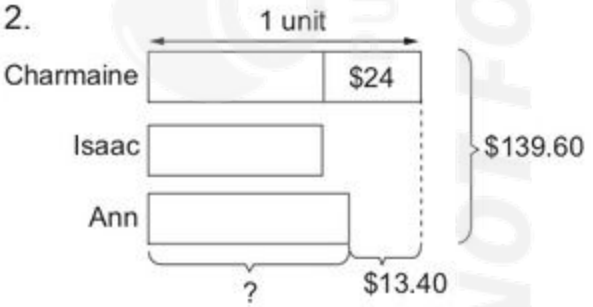
 = $82

$25 +  + $39 = $82

 = $82 – $25 – $39
= $18


= $25 + $18 + $25 + $18
= **$86**

2.



3 units = $139.60 + $24 + $13.40
= $177
1 unit = $177 ÷ 3
= $59
$59 – $13.40 = $45.60

Ann has **$45.60**.

3. 5 days + 1 night → \$300
7 days + 1 night → \$396

2 days → \$396 − \$300
= \$96
1 day → \$96 ÷ 2
= \$48
5 days → 5 × \$48
= \$240
1 night → \$300 − \$240
= \$60

∴ 3 days + 2 nights
→ (3 × \$48) + (2 × \$60)
= \$144 + \$120
= \$264

Thomas would earn **\$264**.

4. Work backwards.

\$186.10
↓ − \$50
\$136.10
↓ + \$37.65
\$173.75
↓ + \$25.20
\$198.95

Xiao Heng had **\$198.95** at first.

5. Use guess and check.

Number of 20¢ coins	Value of 20¢ coins	Number of 50¢ coins	Value of 50¢ coins	Total value	Check
7	7 × 20¢ = \$1.40	7	7 × 50¢ = \$3.50	\$1.40 + \$3.50 = \$4.90	✗
8	8 × 20¢ = \$1.60	8	8 × 50¢ = \$4	\$1.60 + \$4 = \$5.60	✓

Christina saved **\$5.60**.

6. 2 adults + 38 pupils = 40 people
Cost of a set of 5 tickets
= 4 × \$7
= \$28

40 ÷ 5 = 8 sets

Cost of 40 tickets
= 8 × \$28
= \$224

He would have to pay **\$224** altogether.

7. (a) 4 h + 5 h + 2 h + 5 h + 8 h + 6 h
= 30 h

Michael teaches **30 hours** a week.

(b) 30 × \$9 = \$270
∴ 4 × \$270 = \$1080

He earns **\$1080** in 4 weeks.

Unit 8 Length, Mass And Volume

Drills

Exercise 1

1. (a) 340 cm
   (b) 905 cm
   (c) 690 cm
   (d) 1025 cm
   (e) 1208 cm

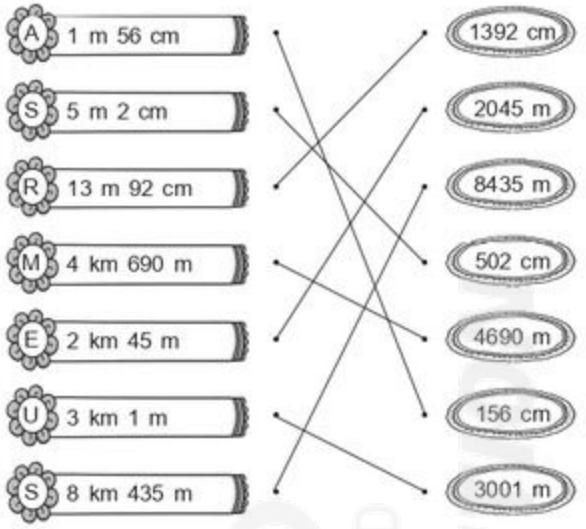
2. (a) 1 m 75 cm
   (b) 3 m 60 cm
   (c) 5 m 8 cm
   (d) 8 m 24 cm
   (e) 9 m 50 cm

Exercise 2

1. (a) 2085 m
   (b) 5005 m
   (c) 7360 m
   (d) 9725 m
   (e) 8470 m

2. (a) 3 km 800 m
   (b) 4 km 70 m
   (c) 7 km 5 m
   (d) 5 km 216 m
   (e) 9 km 48 m

Exercise 3



M	E	A	S	U	R	E	S
4690 m	2045 m	156 cm	502 cm	3001 m	1392 m	2045 m	8435 m

Exercise 4

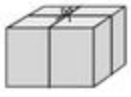
1. (a) 4076 g (b) 8329 g
   (c) 3007 g (d) 9034 g
   (e) 6972 g (f) 8042 g
   (g) 7009 g (h) 5902 g

2. (a) 5 kg 275 g
   (b) 4 kg 300 g
   (c) 6 kg 92 g
   (d) 8 kg 8 g

3. Box A

2 kg 50 g

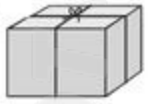
Box B



2020 g

2020 g
= 2 kg 20 g

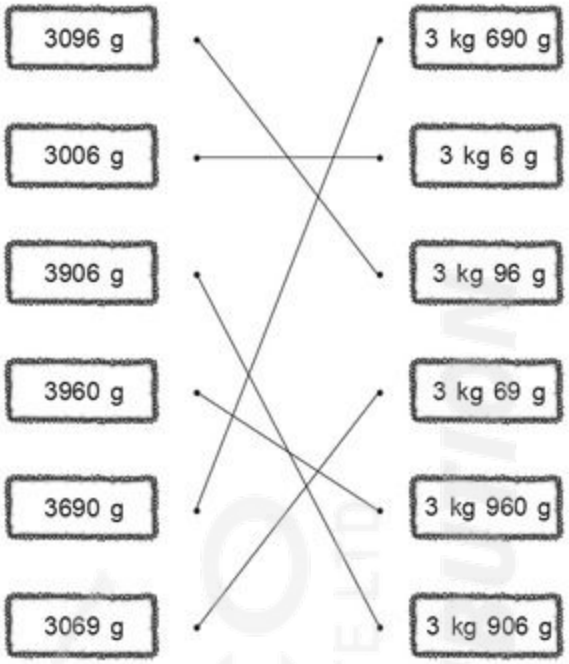
Box C



2 kg 250 g

Heaviest

Exercise 5



Exercise 6

1. (a) 8056 ml (b) 9321 ml
   (c) 3005 ml (d) 4769 ml
   (e) 7060 ml (f) 6034 ml
   (g) 1878 ml (h) 9435 ml

2. (a) 2 *l* 490 ml
   (b) 7 *l* 647 ml
   (c) 6 *l* 500 ml
   (d) 4 *l* 275 ml
   (e) 5 *l* 5 ml
   (f) 3 *l* 38 ml
   (g) 8 *l* 240 ml
   (h) 9 *l* 706 ml

Perform

Exercise 1

1. **(1)**
   200 cm – 105 cm = 95 cm

2. **(3)**
   9000 ml – 7435 ml = 1565 ml

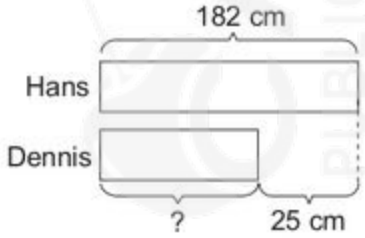
3. **(4)**
   8 × 165 cm = 1320 cm
   = 13 m 20 cm

4. **(2)**
   560 kg ÷ 8 kg = 70

5. **(3)**
   5 × 2 *l* = 10 *l*
   10 *l* – 4 *l* = 6 *l*

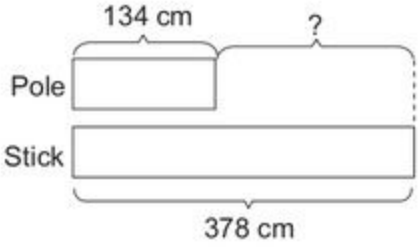
6. **(4)**
   84 km + 65 km = 149 km

Exercise 2

1. 

   182 cm – 25 cm = 157 cm
   Dennis is **157 cm** tall.

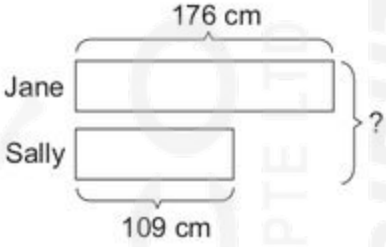
2.



378 cm – 134 cm = 244 cm
= 2 m 44 cm

The stick is **2 m 44 cm** longer than the pole.

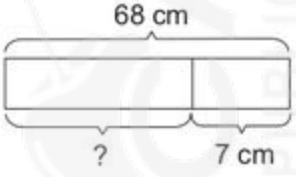
3.



176 cm + 109 cm = 285 cm
= 2 m 85 cm

Their total height is **2 m 85 cm**.

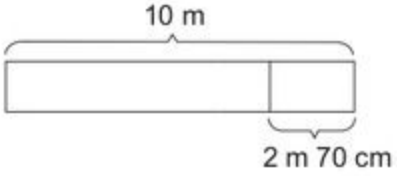
4.



68 cm – 7 cm = 61 cm

The new length of her dress is **61 cm**.

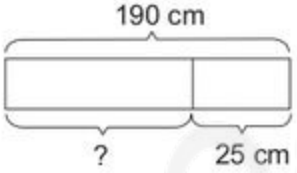
5.



10 m – 2 m 70 cm
= 9 m 100 cm – 2 m 70 cm
= 7 m 30 cm

Tina had **7 m 30 cm** of ribbon left.

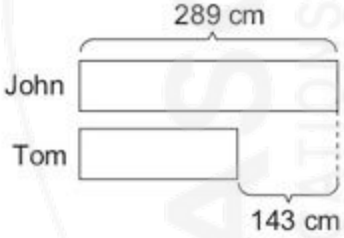
6.



190 cm – 25 cm = 165 cm

He had **165 cm** of fishing line left.

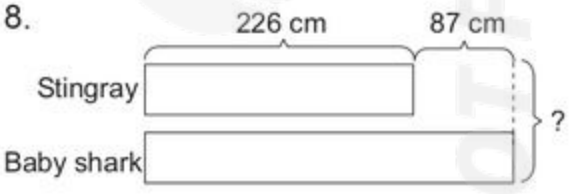
7.



289 cm – 143 cm = 146 cm

Tom's piece of rope is **146 cm** long.

8.

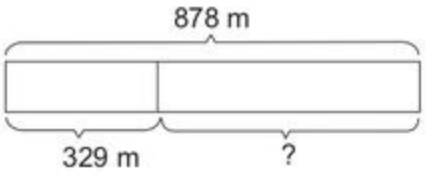


226 cm + 87 cm = 313 cm
The baby shark is 313 cm long.

226 cm + 313 cm = 539 cm
= 5 m 39 cm

The total length of the fishes caught was **5 m 39 cm**.

9.

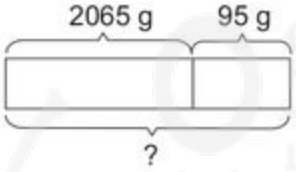


878 m – 329 m = 549 m

The distance from Tom's house to the cinema is **549 m**.

Exercise 3

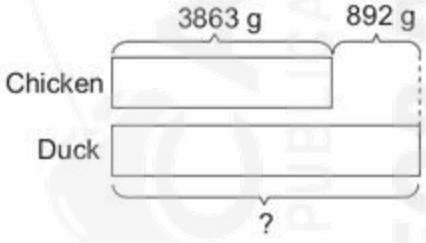
1.



2065 g + 95 g = 2160 g
= 2 kg 160 g

These is **2 kg 160 g** of flour in the bowl now.

2.

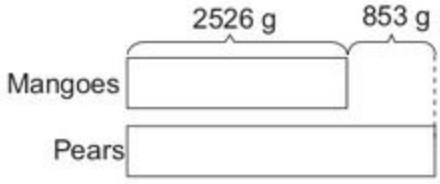


3863 g + 892 g = 4755 g
The mass of the duck is 4755 g.

3863 g + 4755 g = 8618 g
= 8 kg 618 g

The total mass of the chicken and the duck is **8 kg 618 g**.

3.

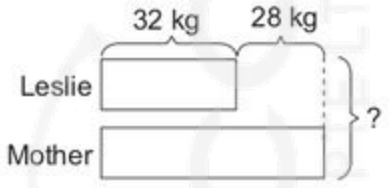


2526 g + 853 g = 3379 g
The mass of the basket of pears is 3379 g.

2526 g + 3379 g = 5905 g
= 5 kg 905 g

The total mass of the fruits is **5 kg 905 g**.

4.

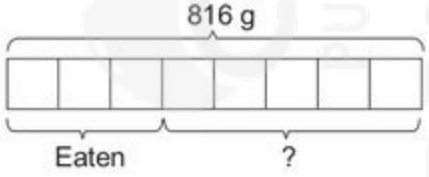


32 kg + 28 kg = 60 kg
Leslie's mother mass is 60 kg.

32 kg + 60 kg = 92 kg

The total mass of Leslie and his mother is **92 kg**.

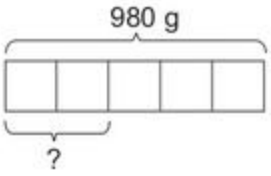
5.



8 units = 816 g
1 unit = 816 g ÷ 8
= 102 g
5 units = 5 × 102 g
= 510 g

The total mass of the remaining fish was **510 g**.

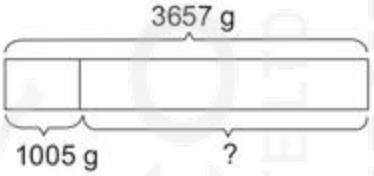
6.



5 units = 980 g
1 unit = 980 g ÷ 5
= 196 g
2 units = 2 × 196 g
= 392 g

The total mass of 2 such bags of rice is **392 g**.

7.



3657 g – 1005 g = 2652 g
The mass of the strawberries is **2652 g**.

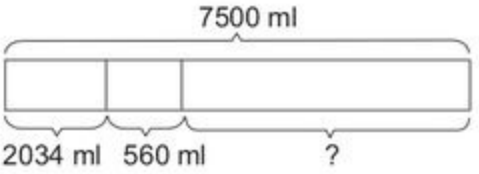
8. 500 g + 500 g + 3 kg 700 g
= 4 kg 700 g

4 kg 700 g – 4 kg 300 g
= 400 g

The mass of (A) is **400 g**.

Exercise 4

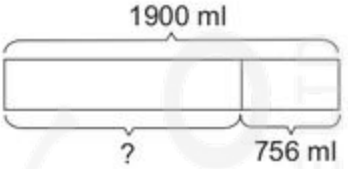
1.



2034 ml + 560 ml = 2594 ml
7500 ml – 2594 ml = 4906 ml
= 4 *l* 906 ml

4 *l* 906 ml of milk was left.

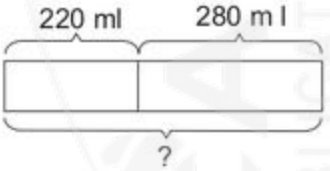
2.



1900 ml – 756 ml = 1144 ml
= 1 *l* 144 ml

1 *l* 144 ml of water was left in the pail.

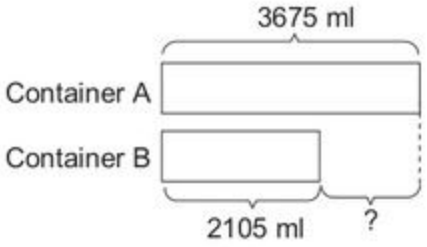
3.



220 ml + 280 ml = 500 ml

There was **500 ml** of oil in the bottle at first.

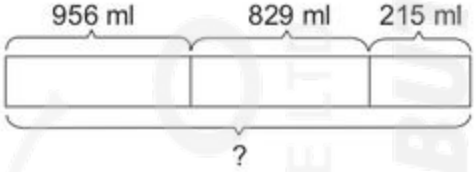
4.



3675 ml – 2105 ml = 1570 ml
= 1 *l* 570 ml

Container B holds **1 *l* 570 ml** less water than Container A.

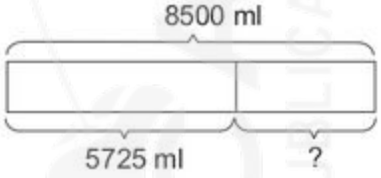
5.



956 ml + 829 ml + 215 ml
= 2000 ml
= 2 *l*

He had **2 *l*** of paint at first.

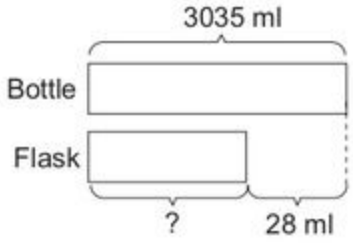
6.



8500 ml – 5725 ml = 2775 ml
= 2 *l* 775 ml

2 *l* 775 ml more water is needed to fill the container completely.

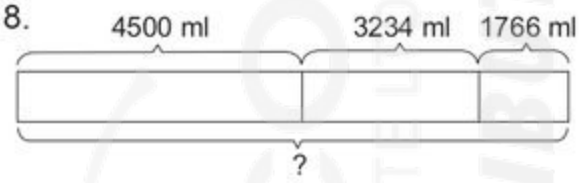
7.



3035 ml – 28 ml = 3007 ml
3007 ml + 3007 ml = 6014 ml
= 6 *l* 14 ml

The total capacity of 2 such flasks is **6 *l* 14 ml**.

8.



4500 ml + 3234 ml + 1766 ml
= 9500 ml
= 9 *l* 500 ml

He had **9 *l* 500 ml** of soya sauce at first.

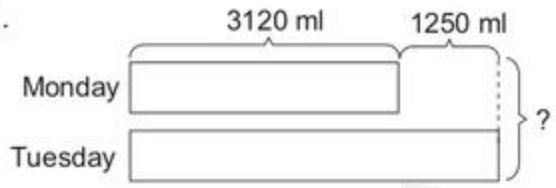
9. 800 ml + 600 ml = 1400 ml
= 1 *l* 400 ml

The total volume of water in both beakers is **1 *l* 400 ml**.

Achieve

Exercise 1

1.

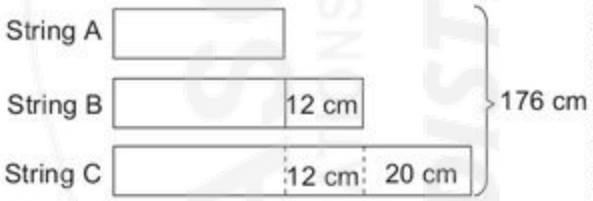


3120 ml + 1250 ml = 4370 ml
He used 4370 ml of paint on Tuesday.

3120 ml + 4370 ml = 7490 ml
= 7 *l* 490 ml

He used **7 *l* 490 ml** of paint altogether.

2. (a)



3 units = 176 cm – 12 cm – 12 cm – 20 cm
= 132 cm
1 unit = 132 cm ÷ 3
= 44 cm

44 cm + 12 cm = 56 cm

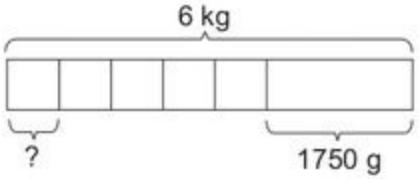
The length of String B is **56 cm**.

(b) 44 cm + 12 cm + 20 cm
= 76 cm
String C is 76 cm long.

44 cm + 76 cm = 120 cm

The total length of String A and String C is **120 cm**.

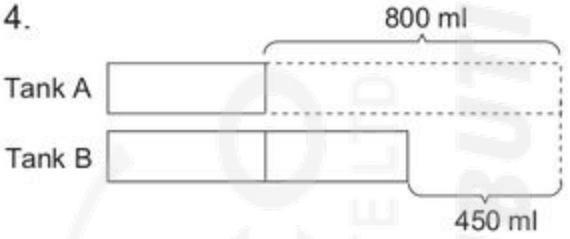
3.



5 units = 6000 g – 1750 g
= 4250 g
1 unit = 4250 g ÷ 5
= 850 g

The mass of 1 box of chocolates is **850 g**.

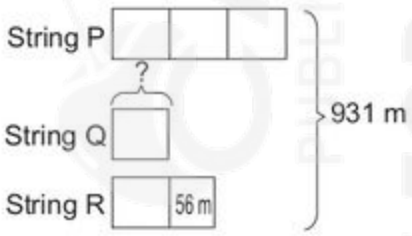
4.



1 unit = 800 ml – 450 ml
= 350 ml
350 ml + 800 ml = 1150 ml
= 1 *l* 150 ml

There was **1 *l* 150 ml** of water in Tank A at first.

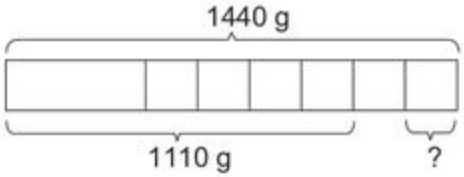
5.



5 units = 931 m – 56 m
= 875 m
1 unit = 875 m ÷ 5
= 175 m

The length of String Q is **175 m**.

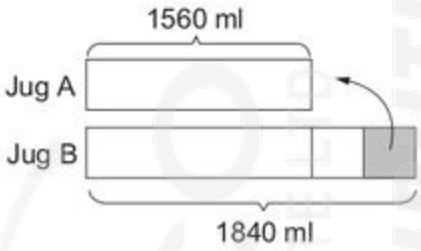
6.



2 units = 1440 g – 1110 g
= 330 g
1 unit = 330 g ÷ 2
= 165 g

The mass of 1 ball was **165 g**.

7.



2 units = 1840 ml – 1560 ml
= 280 ml
1 unit = 280 ml ÷ 2
= 140 ml

Simon must pour **140 ml** of water from Jug B into Jug A.

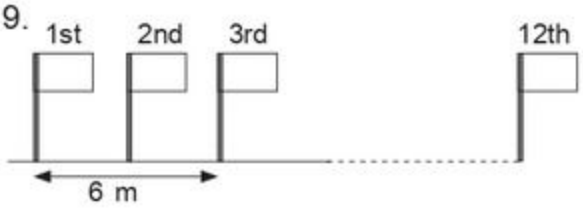
8. 480 g ÷ 2 = 240 g
5 × 240 g = 1200 g

The total mass of 5 bags of flour is 1200 g.

1200 g ÷ 6 = 200 g

The mass of 1 packet of sugar is **200 g**.

9.



Distance between 2 consecutive flags
= 6 m ÷ 2
= 3 m

Distance between the 1st and last flag
= 11 × 3 m
= 33 m

The distance between the 1st and the last flag is **33 m**.

10. 3 × 450 ml = 1350 ml

1010 ml + 1350 ml + 250 ml
= 2610 ml
= 2 *l* 610 ml

Nancy bought **2 *l* 610 ml** of olive oil.

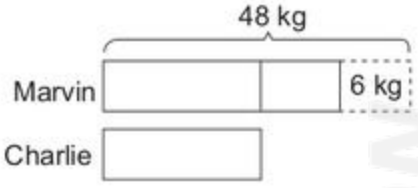
11. (a) 356 m + 598 m = 954 m
He travelled **954 m** altogether.

(b) 589 m – 270 m = 328 m
The distance between the playground and the library is **328 m**.

Challenge

Exercise 1

1. 42 kg + 6 kg = 48 kg

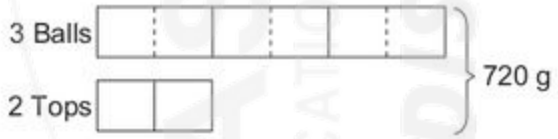


2 units = 48 kg
1 unit = 48 kg ÷ 2
= 24 kg
Charlie's mass is 24 kg.

42 kg + 24 kg + 52 kg = 118 kg

The total mass of the 3 boys is **118 kg**.

2.



8 units = 720 g
1 unit = 720 g ÷ 8
= 90 g
5 units = 5 × 90 g
= 450 g

The total mass of 5 tops is **450 g**.

3. 8 mugs ⟶ $\frac{1}{2}$ of a pail
5 mugs + 9 cups ⟶ $\frac{1}{2}$ of a pail

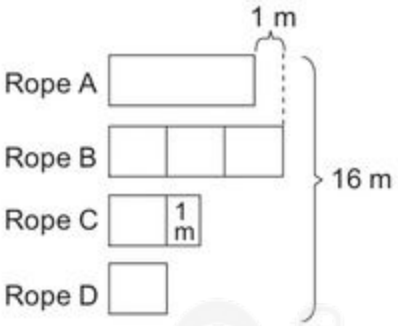
3 mugs = 9 cups
1 mug = 9 ÷ 3
= 3 cups
8 mugs = 8 × 3
= 24 cups

$\frac{1}{2}$ of a pail ⟶ 24 cups

$\therefore$ 1 pail ⟶ 2 × 24 cups = 48 cups

48 cups of water were needed to fill the empty pail.

4.



8 units = 16 m
1 unit = 16 m ÷ 8
= 2 m (Rope D)

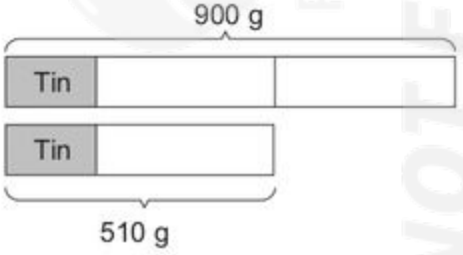
2 m + 1 m = 3 m (Rope C)

3 units = 3 × 2 m
= 6 m (Rope B)

6 m – 1 m = 5 m (Rope A)

Rope A is **5 m** long.
Rope B is **6 m** long.
Rope C is **3 m** long.
Rope D is **2 m** long.

5.



1 unit = 900 g – 510 g
= 390 g

510 g – 390 g = 120 g

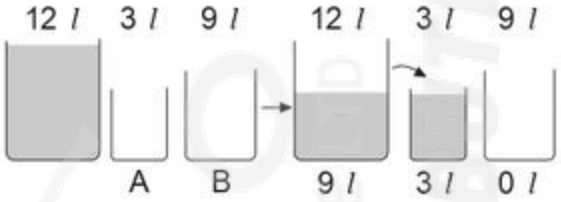
The mass of the tin when it is empty is **120 g**.

6. 480 m ÷ 2 = 240 m
The distance from Malek's school to the playground is 240 m.

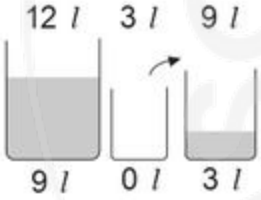
100 m + 240 m = 340 m
The distance from the library to Malek's house 340 m.

340 m + 480 m + 240 m = 1060 m
The distance between the library and the playground is **1060 m**.

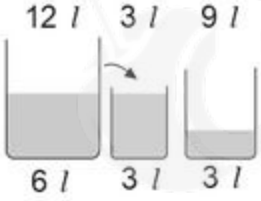
7. Step 1:



Step 2:



Step 3:



Step 4:

Unit 9 Bar Graphs

Drills

Exercise 1

1. 5 × 6 = **30**

2. 4 × 11 = **44**

3. 3 × 25 = **75**

4. 4 × 20 = **80**

5. 2 × 68 = **136**

6. 32 ÷ 4 = 8
28 – 8 = **20**

7. 36 ÷ 6 = 6
2 × 6 = **12**

8. 48 ÷ 4 = 12
26 – 12 = 14
14 ÷ 2 = **7**

9. 40 ÷ 8 = 5
155 – 5 = 150
150 ÷ 3 = **50**

10. (a) 2 × 5 = **10**
(b) 2 × 5 = **10**
(c) 5 × 5 = **25**
(d) 3 × 5 = 15 (3A)
2 × 5 = 10 (3B)
15 + 10 = 25 (3A & 3B)
1 × 5 = 5 (3C)
25 – 5 = **20**
(e) 8 × 5 = **40**

Perform

Exercise 1

1. (a) $35
   (b) $25
   (c) Alicia
   (d) Vans
   (e) $10 + $25 + $45 + $35 + $30
   = **$145**

2. (a) 400
   (b) 450 – 400 = **50**
   (c) 350 – 300 = **50**
   (d) 450 + 400 = 850
   850 – 300 = **550**
   (e) 450 + 300 + 400 + 350 + 400
   = 1900
   1900 × $1 = **$1900**

3. (a) 18
   (b) 24 – 12 = **12**
   (c) 18 – 6 = **12**
   (d) 3
   (e) 18 + 12 + 24 + 6 = **60**

Achieve

Exercise 1

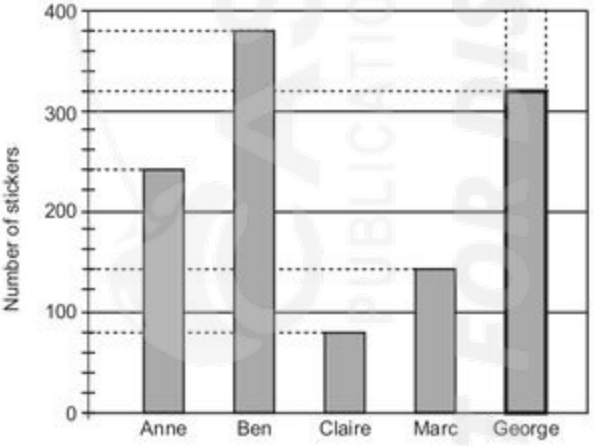
1. (a) 1250
   (b) 1750 – 750 = **1000**
   (c) 1500 – 1000 = **500**
   (d) 1500 + 1750 = 3250
   750 + 1250 + 1000 = 3000
   3250 – 3000 = **250**
   (e) 3250 + 3000 = **6250**
   (f) 750 × $9 = **$6750**

2. (a) $1800
   (b) $1400 – $600 = **$800**
   (c) $1800 – $1200 = **$600**
   (d) $1800 – $600 = **$1200**
   (e) 4
   (f) $800 + $1200 + $1400 + $1800
   + $600 = **$5800**

3. (a) $500 – $100 = **$400**
   (b) $400 – $250 = **$150**
   (c) 2 × $250 = $500, **May**
   (d) March
   (e) February and April
   (f) $250 + $400 + $100 + $400
   + $500 = **$1650**

4. (a) 11
   (b) 5 + 11 = **16**
   (c) 14 + 5 + 3 = **22**
   (d) 5 + 11 + 14 + 5 + 3 = **38**

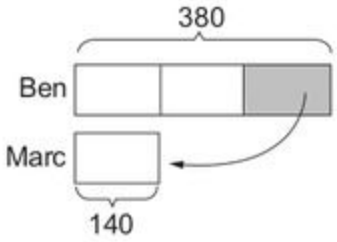
5. (a) 700 – 380 = 320
   George collected 320 stickers.



   (b) 3 × 80 = 240, **Anne**

   (c) 140 ÷ 7 = 20
   20 × $3 = **$60**

(d)



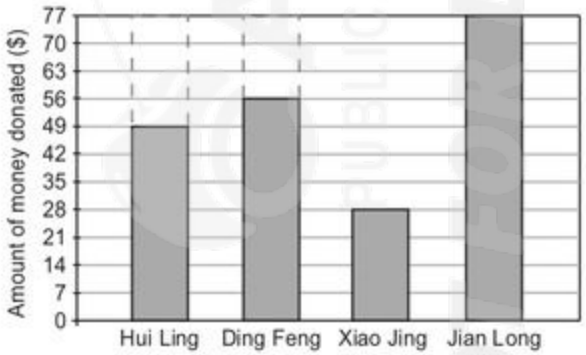
2 units = 380 – 140
= 240 stickers
1 unit = 240 ÷ 2
= 120 stickers

Ben must give **120** stickers to Marc so that each of them will have an equal number of stickers.

Challenge

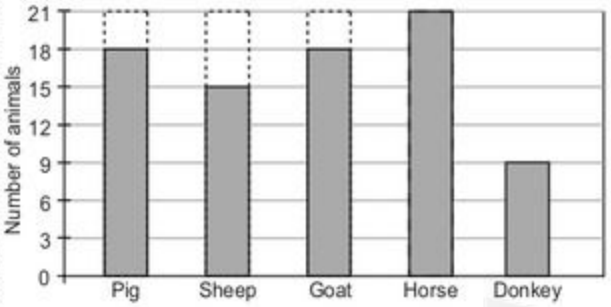
Exercise 1

1. Din Feng: $56
Xiao Jing: $28
Hui Ling: $49
Jian Long: $77



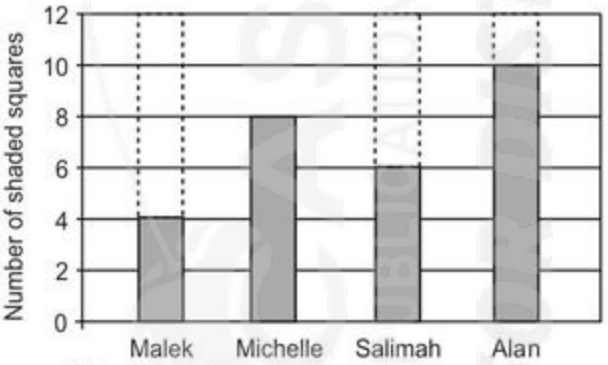
(a) $56
(b) $77 – $49 = **$28**
(c) $49 + $7 = $56, **Din Feng**
(d) 2 × $28 = $56, **Din Feng**
(e) Xiao Jing
(f) $77 – $28 = **$49**
(g) $49 + $56 + $28 + $77
= **$210**

2.



(a) 2 × 9 = **18**
(b) 21 – 15 = **6**
(c) pigs and goats
(d) horses
(e) 21 × 4 = **84**
(f) 18 – 9 = 9
9 × 4 = **36**
(g) 18 + 15 + 18 + 21 + 9 = **81**

3. Michelle – 8, Alan – 10, Malek – 4, Salimah – 6

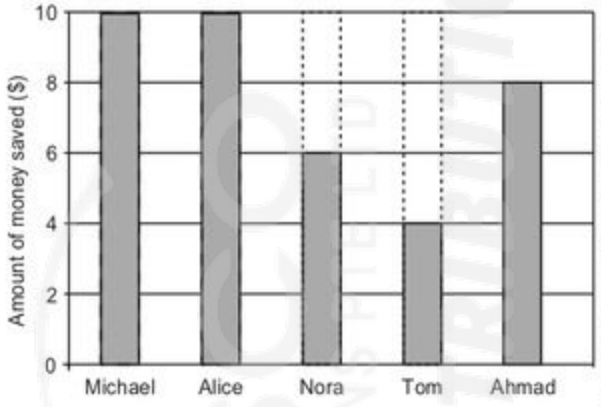


(a) 16 – 6 = **10**
(b) 10 – 4 = **6**
(c) Malek
(d) 16 – 10 = **6**
(e) $\frac{6}{16} = \frac{\mathbf{3}}{\mathbf{8}}$
(f) 16 – 8 = 8
$\frac{8}{16} = \frac{\mathbf{1}}{\mathbf{2}}$

(g) $\frac{3}{4} \overset{\times 4}{=} \frac{12}{16}$

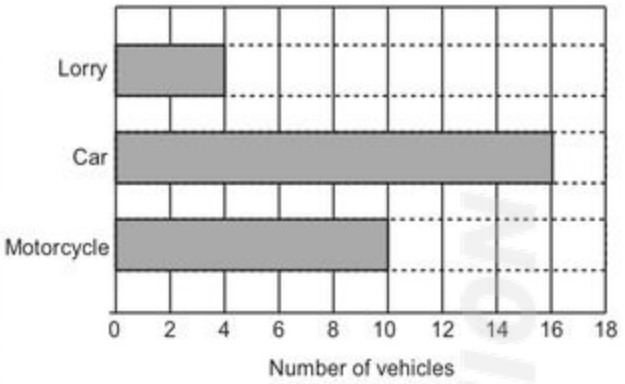
12 – 4 = **8**

4. Tom: $4
Nora: $6
Alice: $10
Ahmad: $8
Michael: $6 + $4 = $10



(a) $10
(b) Tom
(c) Michael and Alice
(d) $6 + $4 = $10
$10 – $8 = **$2**
(e) $10 – $4 = **$6**
(f) $8 – $6 = $2
$2 → **4** fifty-cent coins
(g) $10 + $10 + $6 + $4 + $8
= **$38**

5. Lorries → 2 × 2 = 4
Cars → 8 × 2 = 16
Motorcycles → 5 × 2 = 10



(a) 10 × 2 = **20**
(b) 16 – 4 = **12**
(c) 16 × 4 = 64
4 × 6 = 24
64 – 24 = **40**
(d) 10 × 2 = 20
16 × 4 = 64
64 – 20 = **44**
(e) 4 + 16 + 10 = **30**
(f) 10 × 4 = 40
3 × 6 = 18
6 × 2 = 12
40 + 18 + 12 = **70**
(g) 3 + 2 + 1 = 6
30 – 6 = **24**

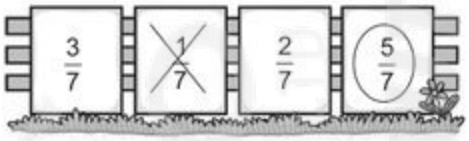
Unit 10 Fractions

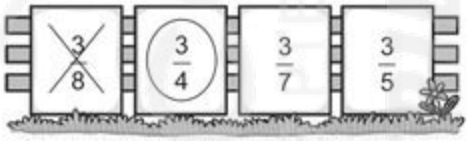
Drills

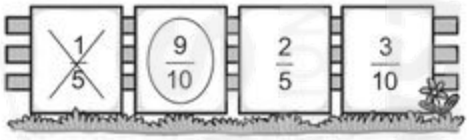
Exercise 1

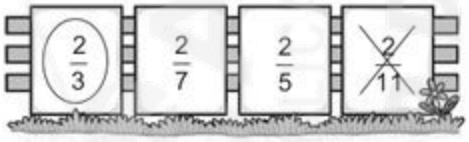
1. $\frac{7}{10}$
2. $\frac{3}{8}$
3. $\frac{7}{12}$
4. $\frac{5}{9}$

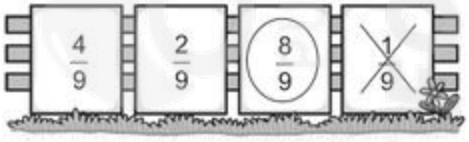
Exercise 2

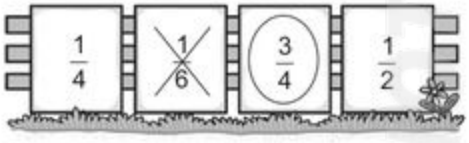
1. 

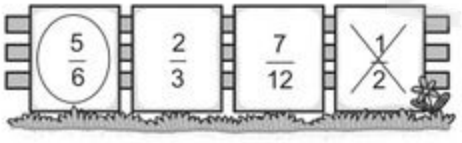
2. 

3. 

4. 

5. 

6. 

7. 

Exercise 3

1. $\frac{3}{4}, \frac{1}{4}, \frac{1}{2} = \frac{2}{4}, 1 = \frac{4}{4}$

   The fraction arranged from the smallest are: $\mathbf{\frac{1}{4}, \frac{1}{2}, \frac{3}{4}, 1}$

2. $\mathbf{\frac{2}{9}, \frac{4}{9}, \frac{5}{9}, \frac{7}{9}}$

3. $\frac{3}{5} = \frac{6}{10}, \frac{7}{10}, \frac{2}{5} = \frac{4}{10}, 1 = \frac{10}{10}$

   The fraction arranged from the smallest are: $\mathbf{\frac{2}{5}, \frac{3}{5}, \frac{7}{10}, 1}$

4. $\frac{1}{6} = \frac{2}{12}, \frac{5}{6} = \frac{10}{12}, \frac{2}{3} = \frac{8}{12}, \frac{5}{12}$

   The fraction arranged from the greatest are: $\mathbf{\frac{5}{6}, \frac{2}{3}, \frac{5}{12}, \frac{1}{6}}$

5. $\mathbf{\frac{4}{5}, \frac{3}{5}, \frac{2}{5}, \frac{1}{5}}$

6. $\frac{7}{10}, \frac{1}{2} = \frac{5}{10}, \frac{4}{5} = \frac{8}{10}, \frac{2}{5} = \frac{4}{10}$

   The fraction arranged from the greatest are: $\mathbf{\frac{4}{5}, \frac{7}{10}, \frac{1}{2}, \frac{2}{5}}$

Exercise 4

1. (a) $\frac{4}{5}$ (b) $\frac{5}{6}$

   (c) $\frac{2}{3}$ (d) $\frac{1}{2}$

   (e) $\frac{3}{4}$ (f) $\frac{2}{5}$

(g) $\frac{1}{2}$ (h) $\frac{3}{4}$

(i) $\frac{1}{2}$ (j) $\frac{1}{3}$

(k) $\frac{3}{5}$ (l) $\frac{3}{7}$

2. (a) $\frac{1}{2} = \frac{5}{\boxed{10}}$

(b) $\frac{1}{3} = \frac{3}{\boxed{9}}$

(c) $\frac{1}{5} = \frac{2}{\boxed{10}}$

(d) $\frac{1}{4} = \frac{\boxed{3}}{12}$

(e) $\frac{2}{3} = \frac{10}{\boxed{15}}$

(f) $\frac{3}{4} = \frac{\boxed{9}}{12}$

(g) $\frac{4}{5} = \frac{\boxed{16}}{20}$

(h) $\frac{5}{6} = \frac{10}{\boxed{12}}$

(i) $\frac{8}{12} = \frac{\boxed{2}}{3}$

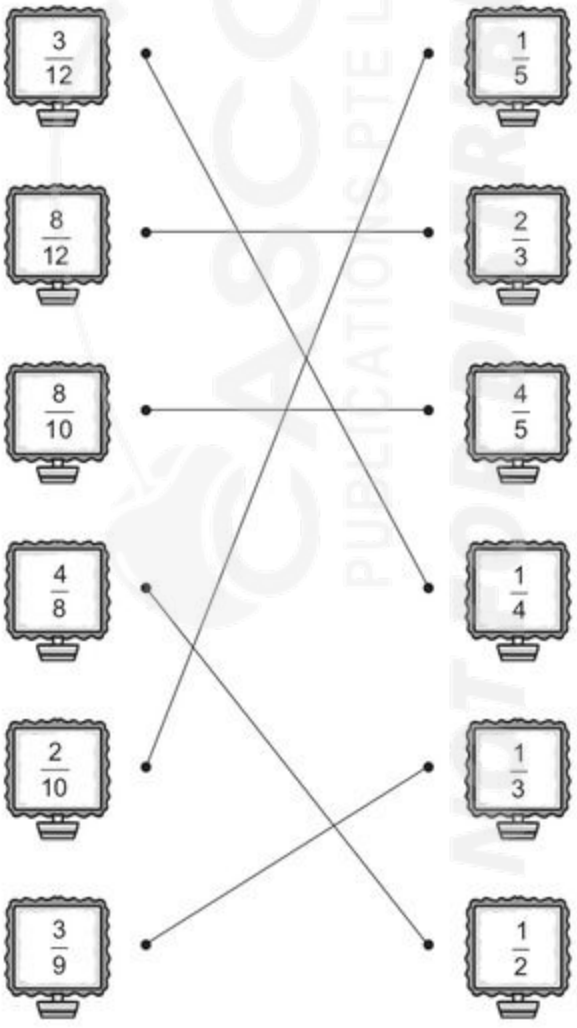
(j) $\frac{3}{\boxed{4}} = \frac{9}{12}$

(k) $\frac{6}{9} = \frac{2}{\boxed{3}}$

(l) $\frac{4}{8} = \frac{1}{\boxed{2}}$

Perform

Exercise 1



Exercise 2

1. (a) $\frac{1}{3} + \frac{1}{4}$
$= \frac{4}{12} + \frac{3}{12}$
$= \mathbf{\frac{7}{12}}$

(b) $\frac{1}{2} + \frac{1}{5}$
$= \frac{5}{10} + \frac{2}{10}$
$= \mathbf{\frac{7}{10}}$

(c) $\frac{1}{6} + \frac{1}{12}$
$= \frac{2}{12} + \frac{1}{12}$
$= \frac{3}{12}$
$= \mathbf{\frac{1}{4}}$

(d) $\frac{1}{9} + \frac{2}{3}$
$= \frac{1}{9} + \frac{6}{9}$
$= \frac{7}{9}$

(e) $\frac{3}{8} + \frac{1}{4}$
$= \frac{3}{8} + \frac{2}{8}$
$= \mathbf{\frac{5}{8}}$

(f) $\frac{2}{6} + \frac{1}{2}$
$= \frac{2}{6} + \frac{3}{6}$
$= \mathbf{\frac{5}{6}}$

(g) $\frac{2}{3} + \frac{1}{12}$
$= \frac{8}{12} + \frac{1}{12}$
$= \frac{9}{12}$
$= \mathbf{\frac{3}{4}}$

(h) $\frac{3}{4} + \frac{1}{6}$
$= \frac{9}{12} + \frac{2}{12}$
$= \mathbf{\frac{11}{12}}$

(i) $\frac{1}{4} + \frac{5}{8}$
$= \frac{2}{8} + \frac{5}{8}$
$= \mathbf{\frac{7}{8}}$

(j) $\frac{5}{12} + \frac{1}{4}$
$= \frac{5}{12} + \frac{3}{12}$
$= \frac{8}{12}$
$= \mathbf{\frac{2}{3}}$

(k) $\frac{1}{10} + \frac{2}{5}$
$= \frac{1}{10} + \frac{4}{10}$
$= \frac{5}{10}$
$= \mathbf{\frac{1}{2}}$

(l) $\frac{3}{8} + \frac{2}{4}$

$= \frac{3}{8} + \frac{4}{8}$

$= \mathbf{\frac{7}{8}}$

2. (a) $\frac{1}{2} - \frac{1}{3}$

$= \frac{3}{6} - \frac{2}{6}$

$= \mathbf{\frac{1}{6}}$

(b) $\frac{1}{4} - \frac{1}{8}$

$= \frac{2}{8} - \frac{1}{8}$

$= \mathbf{\frac{1}{8}}$

(c) $\frac{1}{3} - \frac{1}{12}$

$= \frac{4}{12} - \frac{1}{12}$

$= \frac{3}{12}$

$= \mathbf{\frac{1}{4}}$

(d) $\frac{7}{10} - \frac{1}{2}$

$= \frac{7}{10} - \frac{5}{10}$

$= \frac{2}{10}$

$= \mathbf{\frac{1}{5}}$

(e) $\frac{7}{9} - \frac{1}{3}$

$= \frac{7}{9} - \frac{3}{9}$

$= \mathbf{\frac{4}{9}}$

(f) $\frac{2}{3} - \frac{5}{12}$

$= \frac{8}{12} - \frac{5}{12}$

$= \frac{3}{12}$

$= \mathbf{\frac{1}{4}}$

(g) $\frac{5}{8} - \frac{2}{4}$

$= \frac{5}{8} - \frac{4}{8}$

$= \mathbf{\frac{1}{8}}$

(h) $\frac{5}{6} - \frac{1}{3}$

$= \frac{5}{6} - \frac{2}{6}$

$= \frac{3}{6}$

$= \mathbf{\frac{1}{2}}$

(i) $\frac{4}{5} - \frac{5}{10}$

$= \frac{8}{10} - \frac{5}{10}$

$= \mathbf{\frac{3}{10}}$

(j) $\frac{7}{12} - \frac{1}{4}$

$= \frac{7}{12} - \frac{3}{12}$

$= \frac{4}{12}$

$= \mathbf{\frac{1}{3}}$

(k) $1 - \frac{3}{11}$

$= \frac{11}{11} - \frac{3}{11}$

$= \mathbf{\frac{8}{11}}$

(l) $1 - \frac{1}{9} - \frac{1}{3}$

$= \frac{9}{9} - \frac{1}{9} - \frac{3}{9}$

$= \mathbf{\frac{5}{9}}$

Exercise 3

1. **(1)**

Option (1): $\frac{3}{4} = \frac{6}{8}$ (✓)

Option (2): $\frac{1}{2} = \frac{4}{8}$

Option (3): $\frac{1}{4} = \frac{2}{8}$

Option (4): $\frac{1}{8}$

$\frac{6}{8}$ is greater than $\frac{5}{8}$.

2. **(3)**

$\frac{3}{5}$ is in its simplest form.

3. **(2)**

$\frac{8}{12} \overset{\div 2}{\underset{\div 2}{}} \frac{4}{6} \overset{\div 2}{\underset{\div 2}{}} \boxed{\frac{2}{3}}$

The missing numerator is 2.

4. **(2)**

$\frac{2}{5} \overset{\times 2}{\underset{\times 2}{}} \boxed{\frac{4}{10}}$

The denominator is 10.

5. **(3)**

$5 = \frac{5}{1} = \frac{15}{3}$

There are 15 thirds in 5 whole.

6. **(4)**

$\frac{1}{4} + \frac{5}{8}$

$= \frac{2}{8} + \frac{5}{8}$

$= \frac{7}{8}$

The answer is $\frac{7}{8}$.

7. **(1)**

$\frac{5}{6} - \frac{2}{3}$

$= \frac{5}{6} - \frac{4}{6}$

$= \frac{1}{6}$

The answer is $\frac{1}{6}$.

8. **(2)**

$\frac{1}{2}, \frac{7}{12}, \frac{3}{4}$

$\frac{6}{12}$ $\quad$ $\frac{9}{12}$

9. **(3)**

$1 - \frac{4}{10} = \frac{6}{10}$

$= \frac{3}{5}$

$\frac{3}{5}$ of the cake is left.

10. **(2)**

$1 - \frac{2}{5} = \frac{3}{5}$

$\frac{3}{5}$ of her savings was spent on the ruler.

11. **(3)**

$1 - \frac{3}{8} = \frac{5}{8}$

$\frac{5}{8}$ of the cloth was left.

12. **(2)**

$\frac{1}{6} + \frac{1}{3} = \frac{1}{6} + \frac{2}{6}$

$= \frac{3}{6}$

$= \frac{1}{2}$

They ate $\frac{1}{2}$ of the pizza altogether.

Exercise 4

1. $\frac{2}{3} = \frac{8}{12}$

$8 - 4 = 4$

4 more parts have to be shaded.

2. $\frac{1}{2} = \frac{4}{8}$

$4 - 2 = 2$

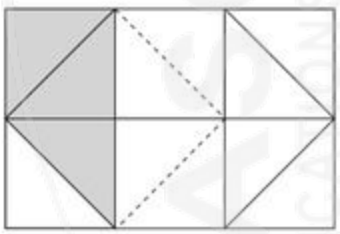
2 more triangles must be shaded.

3. $\frac{3}{5} = \frac{12}{20}$

$12 - 7 = 5$

5 more squares must be shaded.

4. Answer may vary.



$\frac{1}{4} = \frac{3}{12}$

Shade any **3** triangles.

5. $\frac{8}{12} = \frac{2}{3}$

$\frac{2}{3}$ of the set are caps.

6. $\frac{10}{12} = \frac{5}{6}$

The numerator is **5**.

7. $\frac{6}{9} \overset{\div 3}{=} \frac{2}{3} \overset{\times 4}{=} \boxed{\frac{8}{12}}$

The missing number in the box is **8**.

8. 

$P = \frac{6}{8}$

$= \mathbf{\frac{3}{4}}$

9. $\frac{3}{4} \overset{\times 4}{=} \frac{12}{16} \overset{\times 3}{=} \frac{9}{12}$

✿ = **9**

10. $\frac{7}{12} + \frac{1}{12} = \frac{8}{12}$

$= \frac{2}{3}$

There are **2** thirds in the sum of $\frac{7}{12}$ and $\frac{1}{12}$.

11. $1 - \frac{5}{8} = \frac{3}{8}$

$\mathbf{\frac{3}{8}}$ of the pupils are boys.

12. $8 - 5 = 3$

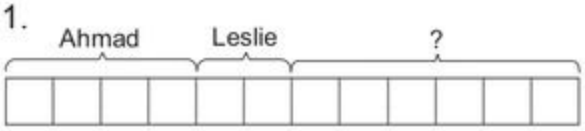
She had $\mathbf{\frac{3}{8}}$ of the cake left.

13. $1 - \frac{3}{10} = \frac{7}{10}$

He had $\mathbf{\frac{7}{10}}$ of the stickers left.

Achieve

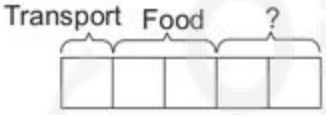
Exercise 1

1. 

$12 - 4 - 2 = 6$

$\frac{6}{12} = \frac{1}{2}$

He had $\mathbf{\frac{1}{2}}$ of the pizza left.

2. 

$1 - \frac{1}{5} - \frac{2}{5} = \frac{2}{5}$

He had $\mathbf{\frac{2}{5}}$ of his earnings left.

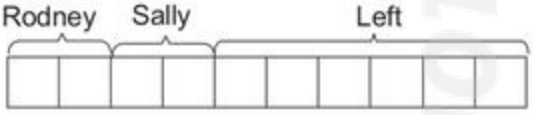
3. $\frac{2}{3}\ l - \frac{1}{6}\ l$

$= \frac{4}{6}\ l - \frac{1}{6}\ l$

$= \frac{3}{6}\ l$

$= \frac{1}{2}\ l$

She needs $\mathbf{\frac{1}{2}}\ l$ more apple juice.

4. 

$10 - 2 - 6 = 2$

$\frac{2}{10} = \frac{1}{5}$

He gave $\mathbf{\frac{1}{5}}$ of his stamps to Sally.

5. $\frac{11}{12}$ kg − $\frac{2}{3}$ kg − $\frac{1}{6}$ kg

= $\frac{11}{12}$ kg − $\frac{8}{12}$ kg − $\frac{2}{12}$ kg

= $\frac{1}{12}$ kg

$\frac{1}{12}$ **kg** of rice was left in the container.

6. $1 - \frac{1}{5} - \frac{1}{10}$

= $\frac{10}{10} - \frac{2}{10} - \frac{1}{10}$

= $\frac{7}{10}$

$\frac{7}{10}$ of the seats was occupied by girls.

7. $1 - \frac{3}{8} - \frac{1}{4}$

= $\frac{8}{8} - \frac{3}{8} - \frac{2}{8}$

= $\frac{3}{8}$

$\frac{3}{8}$ of the pie was left.

8. $1 - \frac{1}{4} - \frac{5}{12}$

= $\frac{12}{12} - \frac{3}{12} - \frac{5}{12}$

= $\frac{4}{12}$

= $\frac{1}{3}$

Lisa ate $\frac{1}{3}$ of the cake.

9. (a) $\frac{1}{6}$ kg + $\frac{7}{12}$ kg

= $\frac{2}{12}$ kg + $\frac{7}{12}$ kg

= $\frac{9}{12}$ kg

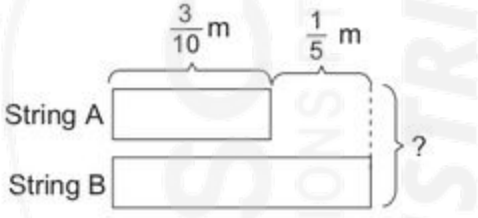
= $\frac{3}{4}$ kg

She had $\frac{3}{4}$ **kg** of sugar altogether.

(b) 1 kg − $\frac{3}{4}$ kg = $\frac{1}{4}$ kg

She had $\frac{1}{4}$ **kg** of sugar left.

10.



$\frac{3}{10}$ m + $\frac{1}{5}$ m

= $\frac{3}{10}$ m + $\frac{2}{10}$ m

= $\frac{5}{10}$ m

Strings B is $\frac{5}{10}$ m long.

$\frac{3}{10}$ m + $\frac{5}{10}$ m = $\frac{8}{10}$ m

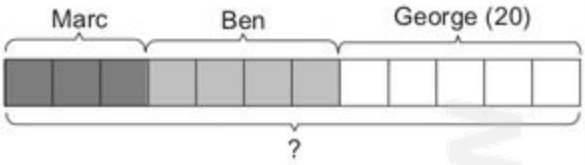
= $\frac{4}{5}$ m

The total length of both strings is $\frac{4}{5}$ **m**.

Challenge

Exercise 1

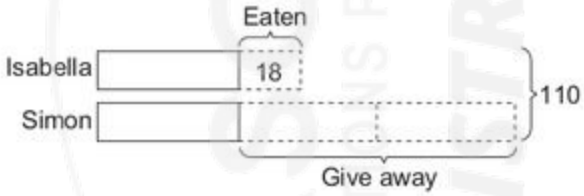
1. $\frac{1}{4} = \frac{3}{12}$, $\frac{1}{3} = \frac{4}{12}$



5 units = 20 marbles
1 unit = 20 ÷ 5
= 4 marbles
12 units = 12 × 4
= 48 marbles

There were **48** marbles in the box.

2.



4 units = 110 − 18
= 92 sweets
1 unit = 92 ÷ 4
= 23 sweets

23 + 18 = 41

Isabella had **41** sweets at first.

Unit 11 Time

Drills

Exercise 1

1. 3.30
2. 9.35
3. 10.15
4. 12.25
5. 1.35
6. 3.55

Exercise 2

1. 4.50

2. 7.30

3. 8.15

4. 5.35

5. 11.05

6. 6.20

Exercise 3

1. 10 minutes to 6
2. 5 minutes to 8
3. 10 minutes past 1
4. 20 minutes past 10
5. 25 minutes to 4

Exercise 4

1. 25 minutes past 6

2. 10 minutes to 2

3. 15 minutes to 10

4. 20 minutes past 5

5. 10 minutes past 9

6. 5 minutes to 12

Exercise 5

1. hours
2. minutes
3. hours
4. minutes
5. hour, minutes
6. hours
7. hours, minutes

Exercise 6

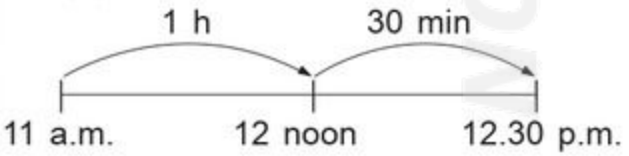
1. a.m.
2. p.m.
3. p.m.
4. p.m.
5. a.m.
6. a.m., p.m.
7. a.m.

Perform

Exercise 1

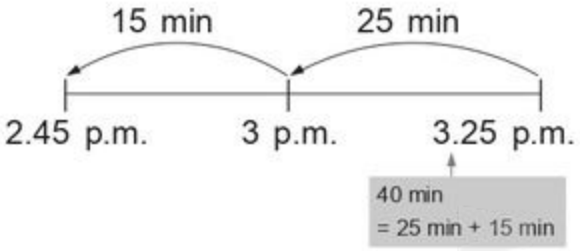
1. **(2)**
   The time shown on the clock is 20 minutes to 5.

2. **(3)**



90 min = 1 h 30 min
His lesson ended at 12.30 p.m.

3. **(1)**
He left his grandmother's house at 3.25 p.m.



He arrived at his grandmother's house at 2.45 p.m.

4. **(2)**
3 h 10 min = 180 min + 10 min
= 190 min

190 min – 165 min = 25 min

Sally took 25 min longer to sew the dress.

Exercise 2

1. (a) 70 min (b) 180 min

   (c) 100 min (d) 135 min

   (e) 200 min (f) 170 min

   (g) 265 min (h) 305 min

2. (a) 1 h 25 min

   (b) 3 h 20 min

   (c) 2 h 35 min

   (d) 7 h 10 min

   (e) 4 h 5 min

   (f) 4 h 50 min

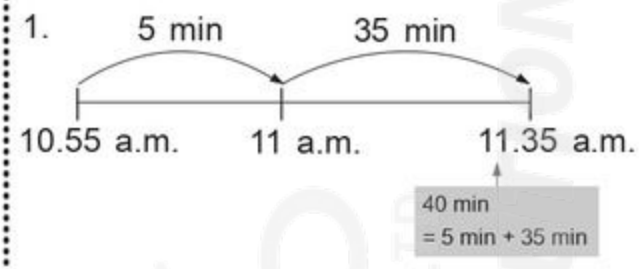
   (g) 7 h 40 min

   (h) 5 h 50 min

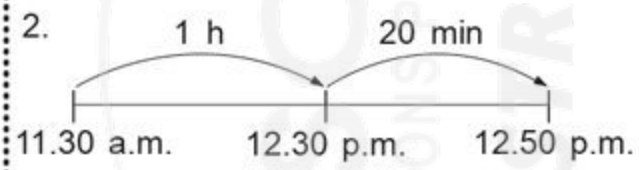
   (i) 10 h 0 min

   (j) 6 h 45 min

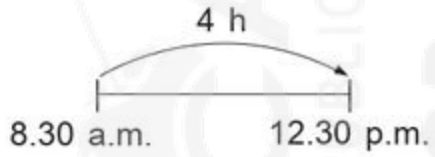
Exercise 3

1. 

   40 minutes after 10.55 a.m. is **11.35 a.m.**

2. 

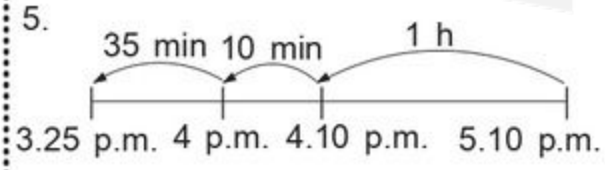
   She stopped at **12.50 p.m.**

3. 

   It is open for **4 h** in the morning.

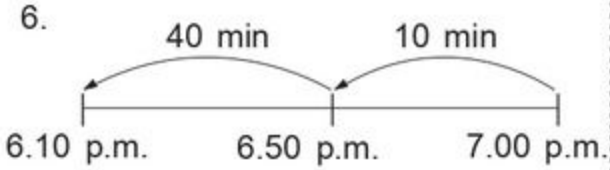
4. 3 h 25 min + 1 h 5 min
   = 4 h 30 min

   He took **4 h 30 min** to fix Puzzle 2.

5. 

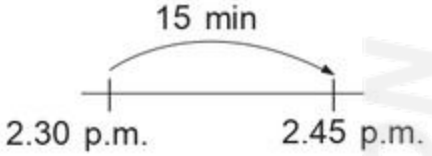
   His lesson started at **3.25 p.m.**

6.



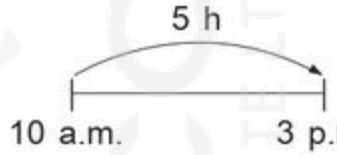
He started cycling at **6.10 p.m.**

7.



The actual time Lucy reached home was **2.45 p.m.**

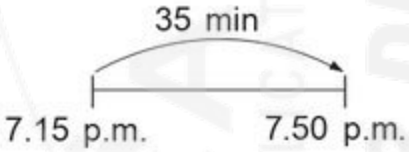
8.



5 h = 2 h 30 min + 2 h 30 min

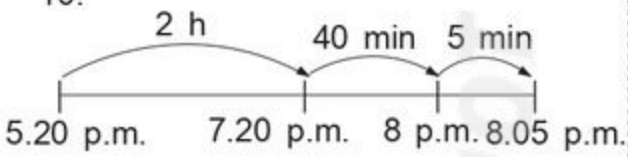
He painted **2** walls.

9.



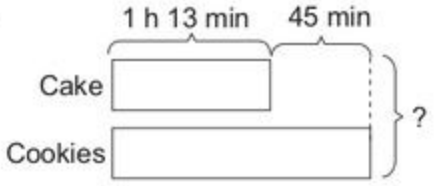
He took **35 min** to finish eating his baked rice.

10.



The movie ended at **8.05 p.m.**

11.



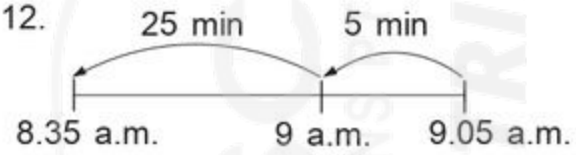
1 h + 13 min + 45 min
= 1 h 58 min

Amy took 1 h 58 min to bake the cookies.

1 h 13 min + 1 h 58 min
= 2 h 71 min
= 3 h 11 min

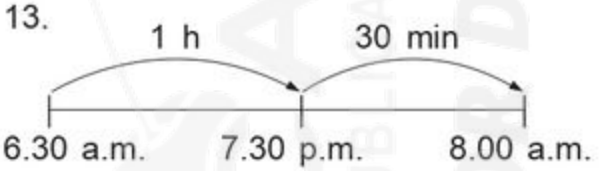
She took **3 h 11 min** to bake the cake and the cookies altogether.

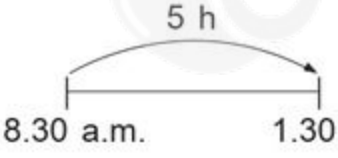
12.



He left his house at **8.25 a.m.**

13.

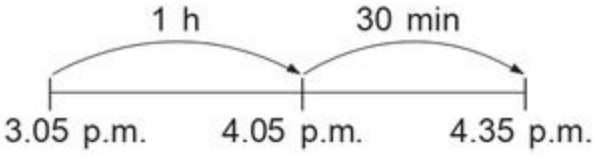




1 h 30 min + 5 h = 6 h 30 min

She has worked for **6 h 30 min**.

14. 9×10 min = 90 min
= 1 h 30 min



She will complete her task at **4.35 p.m.**

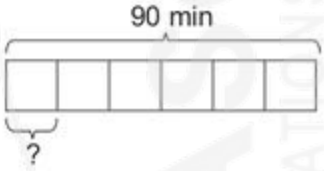
15. 45 min + 1 h 15 min
= 1 h 60 min
= 2 h

She spent **2 h** on her homework.

Achieve

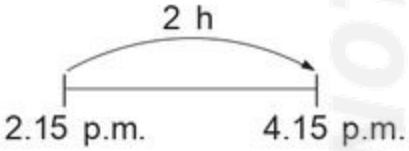
Exercise 1

1. 1 h 30 min = 90 min



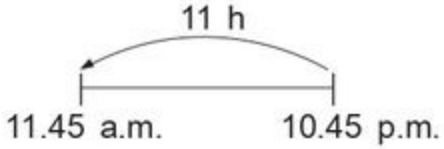
1 unit = 90 ÷ 6
= 15 min
8 units = 8 × 15 min
= 120 min
= 2 h

He will take 2 h to complete 8 word problems.

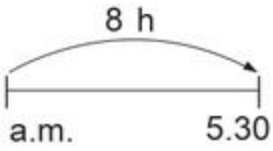


He will complete 8 word problems at **4.15 p.m.**

2. 9 h + 1 h + 30 min + 30 min
= 10 h 60 min
= 11 h



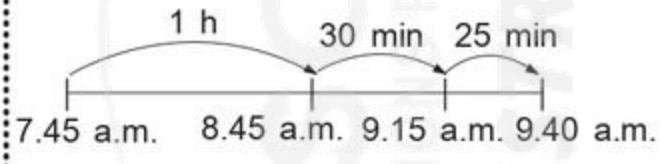
He started work at **11.45 a.m.**

3. 

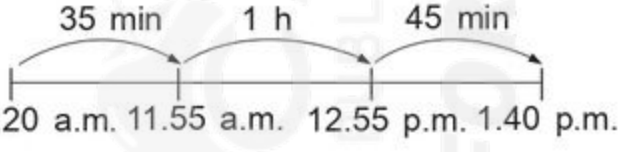
$8 \times \$9 = \$72$

He is paid **$72** every day.

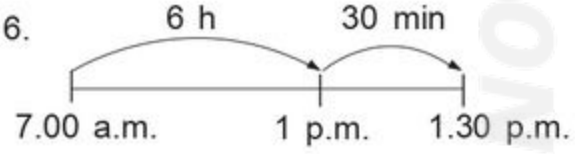
4. 3×30 min = 90 min
= 1 h 30 min



Recess time ends at **9.40 a.m.**

5. 

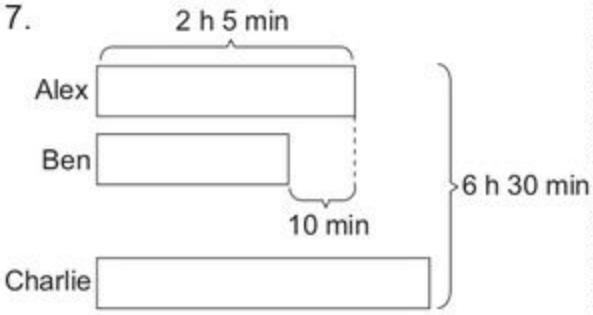
They left the zoo at **1.40 p.m.**

6. 

30 min → 1 letter
6 h 30 min → 12 + 1 = 13 letters

He can type **13** letters before going for lunch.

7.

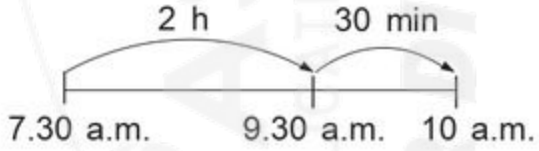


(a) 2 h 5 min – 10 min
= 1 h 65 min – 10 min
= 1 h 55 min

Ben took **1 h 55 min** to complete the race.

(b)
6 h 30 min – 2 h 5 min – 1 h 55 min
= 5 h 90 min – 2 h 5 min – 1 h 55 min
= 2 h 30 min

Charlie took 2 h 30 min to complete the race.

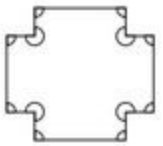


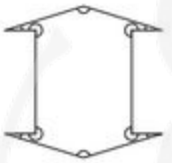
Charlie completed the race at **10 a.m.**

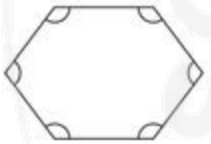
Unit 12 Angles, Perpendicular and Parallel Lines

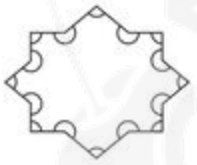
Drills

Exercise 1

1.  12

2.  10

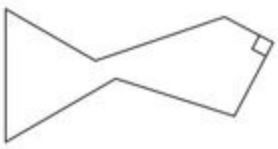
3.  6

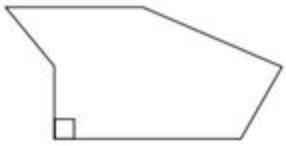
4.  16

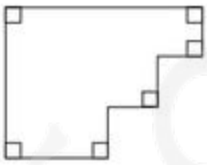
5.  10

6.  5

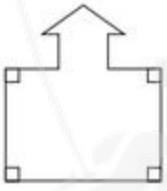
Exercise 2

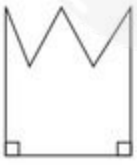
1. 

2. 

3. 

4. 

5. 

6. 

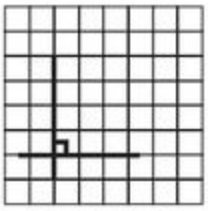
Exercise 3

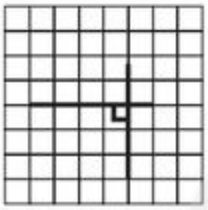
1. $\angle b$ and $\angle c$

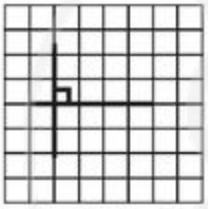
2. $\angle a$, $\angle d$ and $\angle e$

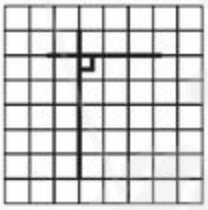
Exercise 4

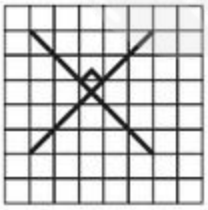
Answers may vary.

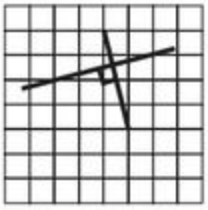
1. 

2. 

3. 

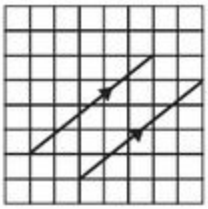
4. 

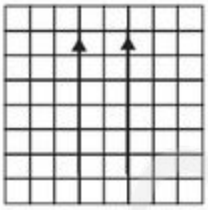
5. 

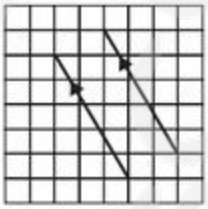
6. 

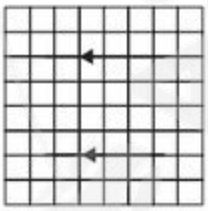
Exercise 5

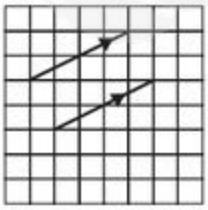
Answers may vary.

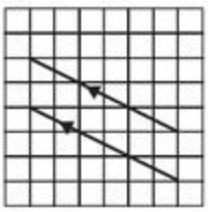
1. 

2. 

3. 

4. 

5. 

6. 

Perform

Exercise 1

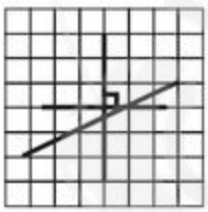
1. (3)
2. (1)
3. (4)
4. (4)
5. (3)
6. (3)

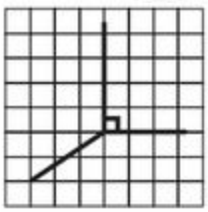
Exercise 2

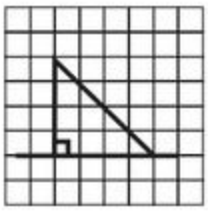
1. 2
2. (a) 2
   (b) 4
3. ∠d, ∠a, ∠c, ∠b (Largest)

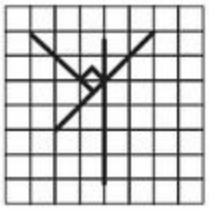
Exercise 3

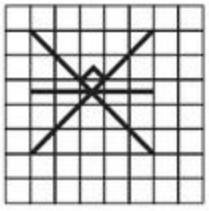
Answers may vary.

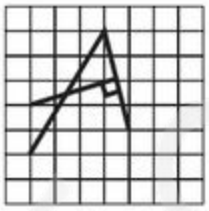
1. 

2. 

3. 

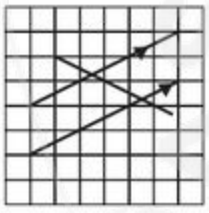
4. 

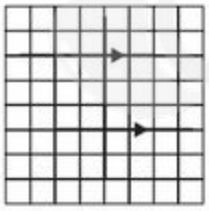
5. 

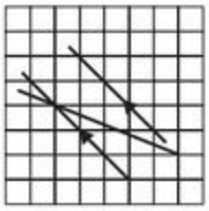
6. 

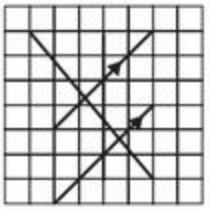
Exercise 4

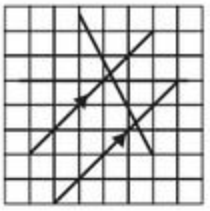
Answers may vary.

1. 

2. 

3. 

4. 

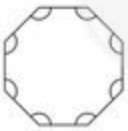
5. 

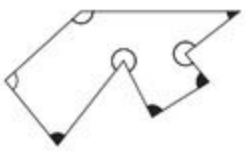
6. 

Achieve

Exercise 1

1. 

2. 

3. 

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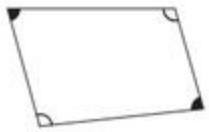
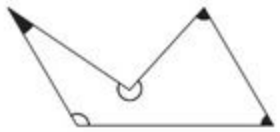
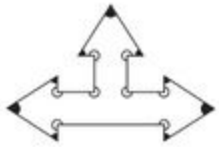


5.

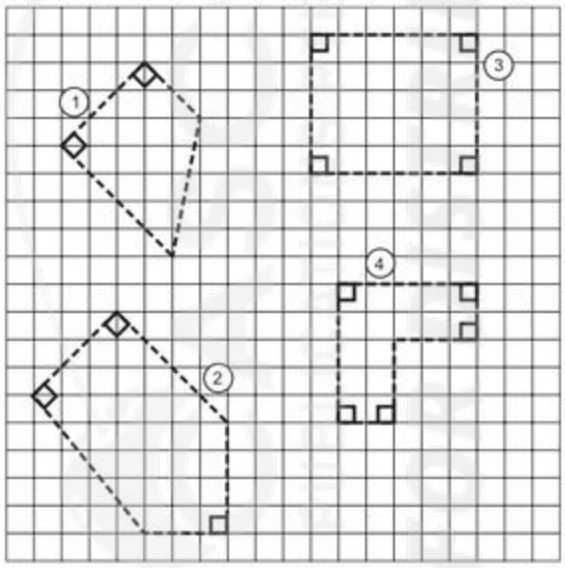


6.



Exercise 2

Answers may vary.



Exercise 3

1. AF ⊥ CH
   BE ⊥ CH
   AB ⊥ AF
   AB ⊥ BE
   FE ⊥ AF
   FE ⊥ BE
2. AB ⊥ BC
   BC ⊥ CD
   CD ⊥ DE
3. AB ⊥ BC
   AB ⊥ AF
   BC ⊥ CD
   EF ⊥ DE

Exercise 4

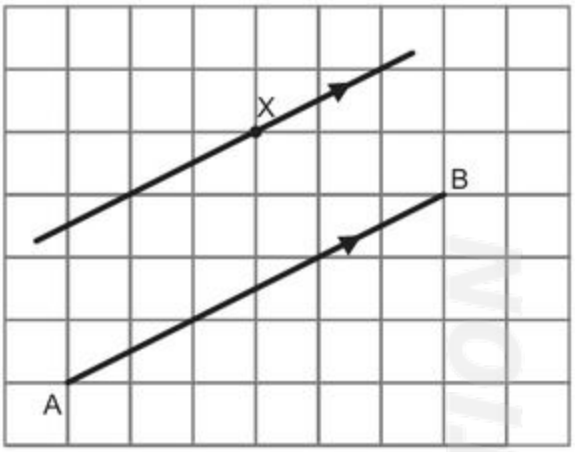
1. AB // ED
   BC // GF
   AG // CD // EF
2. AH // BC
3. AB // ED
   CD // GF
   AG // BC // EF

Exercise 5

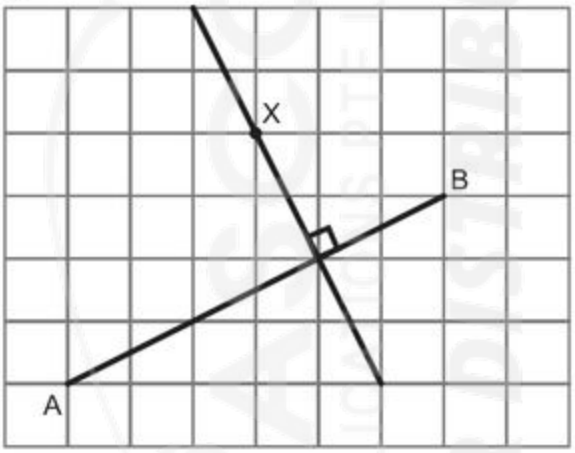
1. (a) AG and CD
   (b) GF and FE
2. (a) DI
   (b) FH

Exercise 6

1.



2.



Unit 13 Area And Perimeter

Drills

Exercise 1

1. 1 cm × 1 cm = 1 cm^2
   12 × 1 cm^2 = **12 cm^2**

2. 1 cm × 1 cm = 1 cm^2
   17 × 1 cm^2 = **17 cm^2**

3. 1 cm × 1 cm = 1 cm^2
   17 × 1 cm^2 = **17 cm^2**

4. 1 cm × 1 cm = 1 cm^2
   24 × 1 cm^2 = **24 cm^2**

Exercise 2

1. 1 cm × 1 cm = 1 cm^2
   18 × 1 cm^2 = **18 cm^2**

2. 1 m × 1 m = 1 m^2
   17 × 1 m^2 = **17 m^2**

Exercise 3

1. 6 × 5 = **30 cm^2**

2. 8 × 2 = **16 cm^2**

3. 7 × 5 = **35 cm^2**

4. 7 × 7 = **49 cm^2**

5. 4 × 4 = 16 cm^2
   4 × 8 cm^2 = 32 cm^2
   32 cm^2 + 16 cm^2 = **48 cm^2**

Exercise 4

1. 18 cm 2. 20 cm

3. 28 cm 4. 30 cm

5. 28 cm

Exercise 5

1. 18 m 2. 22 m

Exercise 6

1. 7 + 4 + 7 + 4 = **22 cm**

2. 10 + 3 + 10 + 3 = **26 cm**

3. 4 × 7 cm = **28 cm**

4. 3 + 4 + 5 + 4 + 8 + 8 = **32 cm**

5. 7 + 6 + 10 + 12 + 8 = **43 cm**

Perform

Exercise 1

1. **(4)**
   $9 \times 9 = 81 \text{ cm}^2$

2. **(2)**
   $4 \times 5 \text{ cm} = 20 \text{ cm}$

3. **(3)**
   $8 \times 4 = 32 \text{ cm}^2$

4. **(2)**
   $9 + 6 + 9 + 6 = 30 \text{ cm}$

5. **(1)**
   $3 \times 3 = 9 \text{ cm}^2$
   $3 \times 2 = 6 \text{ cm}^2$
   $9 \text{ cm}^2 - 6 \text{ cm}^2 = 3 \text{ cm}^2$

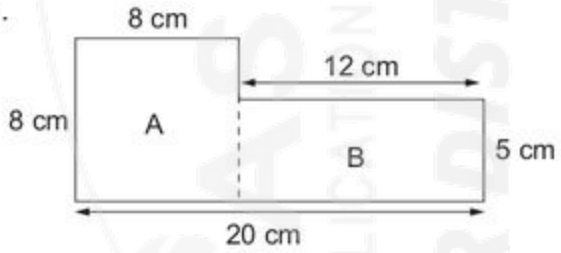
6. **(1)**
   $4 \times 7 \text{ cm} = 28 \text{ cm}$
   $5 + 4 + 5 + 4 = 18 \text{ cm}$
   $28 \text{ cm} - 18 \text{ cm} = 10 \text{ cm}$

7. **(4)**
   $6 \times 6 = 36 \text{ cm}^2$
   $12 \times 7 = 84 \text{ cm}^2$
   $36 \text{ cm}^2 + 84 \text{ cm}^2 = 120 \text{ cm}^2$

8. **(4)**
   $4 \times 8 \text{ cm} = 32 \text{ cm}$
   $15 + 9 + 15 + 9 = 48 \text{ cm}$
   $32 \text{ cm} + 48 \text{ cm} = 80 \text{ cm}$

Exercise 2

1.

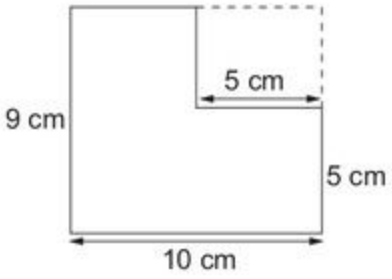


Area of Square A
$= 8 \times 8$
$= 64 \text{ cm}^2$

Area of Rectangle B
$= 12 \times 5$
$= 60 \text{ cm}^2$

Area of figure
$= 64 + 60$
$= \mathbf{124 \text{ cm}^2}$

2.



Perimeter of figure
= Perimeter of Rectangle
= 10 + 9 + 10 + 9
= **38 cm**

3. Area of Rectangle A
= 13 × 4
= 52 cm^2

Area of Square B
= 7 × 7
= 49 cm^2

52 cm^2 – 49 cm^2 = **3 cm^2**

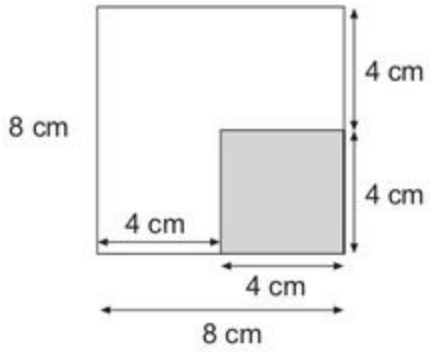
4. Perimeter of Rectangle A
= 10 + 4 + 10 + 4
= 28 cm

Perimeter of Rectangle B
= 9 + 5 + 9 + 5
= 28 cm

28 cm + 28 cm = **56 cm**

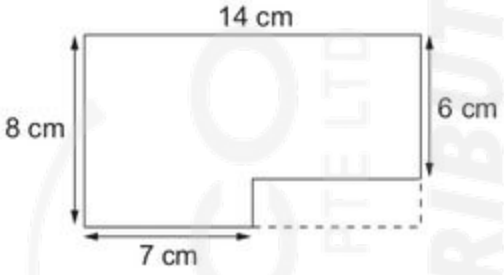
5. Perimeter of figure
= 6 + 15 + 7 + 8
= **36 cm**

6.



Area of smaller square
= 4 × 4
= **16 cm^2**

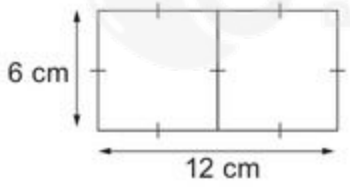
7.



Perimeter of figure
= Perimeter of rectangle
= 14 + 8 + 14 + 8
= **44 cm**

8. Area of each small square
= 81 cm^2 ÷ 9
= **9 cm^2**

9.



Area of figure
= 12 × 6
= **72 cm^2**

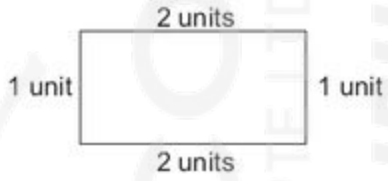
Achieve

Exercise 1

1. Perimeter of square
= 100 – 24
= 76 cm

Length of each side of square
= 76 cm ÷ 4
= 19 cm

The length of each side of the square is **19 cm**.

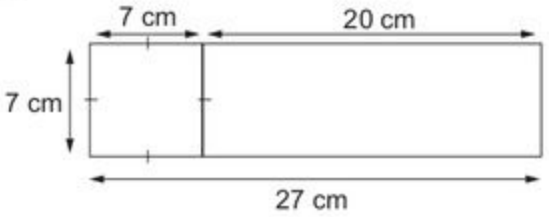
2. 

Perimeter of rectangle = 54 m

6 units = 54 m
1 unit = 54 m ÷ 6
= 9 m
2 units = 2 × 9 m
= 18 m

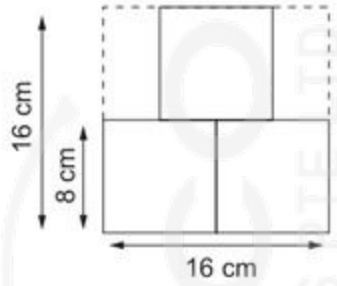
Area of rectangle
= 18 × 9
= 162 m^2

The area of the rectangle is **162 m^2**.

3. 

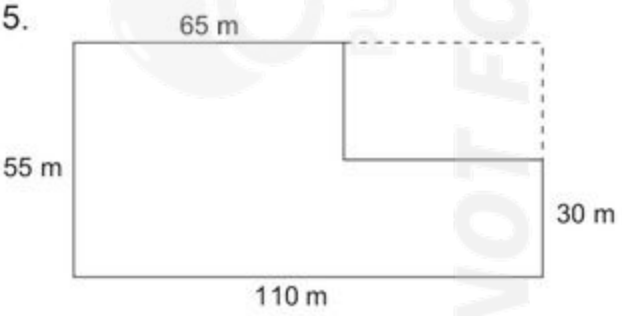
Perimeter of figure
= 27 + 7 + 27 + 7
= 68 cm

The perimeter of the figure is **68 cm**.

4. 

Perimeter of figure
= Perimeter of big square
= 4 × 16 cm
= 64 cm

The perimeter of the figure is **64 cm**.

5. 

Perimeter of plot of land
= Perimeter of rectangle
= 110 + 55 + 110 + 55
= 330 m

Cost of fencing
= 330 × $9
= $2970

He needs to pay **$2970** for fencing.

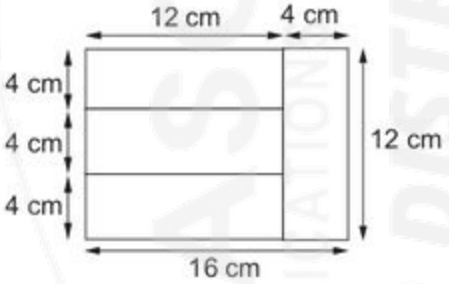
6. Area of Square X
= 6 × 6
= 36 cm^2

Length of Rectangle Y
= 36 ÷ 4
= 9 cm

Perimeter of Rectangle Y
= 9 + 4 + 9 + 4
= 26 cm

The perimeter of Rectangle Y is **26 cm**.

7.

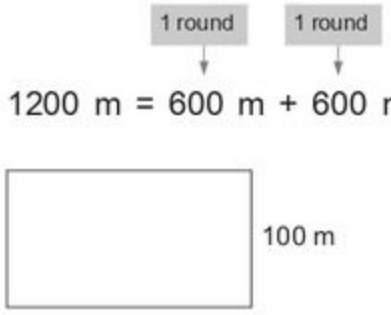


Length of each rectangle
= 3 × 4 cm
= 12 cm

Perimeter of figure
= 16 + 12 + 16 + 12
= 56 cm

The perimeter of the figure is **56 cm**.

8. 1200 m = 600 m + 600 m



Perimeter of field = 600 m
Length + Breadth = 600 m ÷ 2
= 300 m
Length + 100 m = 300 m
Length = 300 m – 100 m
= 200 m

The length of field is **200 m**.

9.

8 × 8 = 64 cm^2

The length of each side of the square is 8 cm.

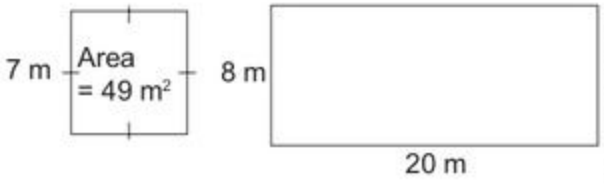
Breadth of rectangle
= 8 cm ÷ 2
= 4 cm

Length of rectangle
= 3 × 4 cm
= 12 cm

Perimeter of rectangle
= 12 + 4 + 12 + 4
= 32 cm

The perimeter of the rectangle is **32 cm**.

10.



$7 \times 7 = 49 \text{ m}^2$

The length of each side of square flowerbed is 7 m.

Perimeter of square flowerbed
$= 4 \times 7 \text{ m}$
$= 28 \text{ m}$

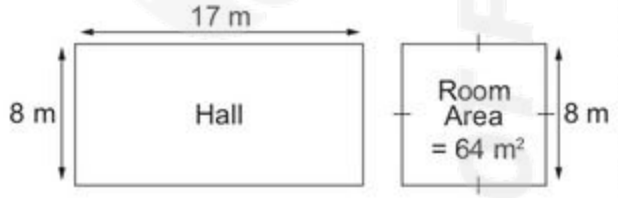
Perimeter of rectangular field
$= 2 \times 28 \text{ m}$
$= 56 \text{ m}$

Length + Breadth $= 56 \text{ m} \div 2$
Length + 8 m $= 28 \text{ m}$
Length $= 28 \text{ m} - 8 \text{ m}$
$= 20 \text{ m}$

Area of rectangular field
$= 20 \times 8$
$= 160 \text{ m}^2$

Its area is **160 m²**.

11.



$8 \times 8 = 64 \text{ m}^2$

The length of each side of the square room is 8 m.

Width of hall = 8 m

Perimeter of room
$= 4 \times 8 \text{ m}$
$= 32 \text{ m}$

Perimeter of hall
$= 17 + 8 + 17 + 8$
$= 50 \text{ m}$

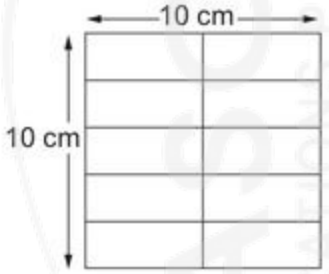
Difference
$= 50 \text{ m} - 32 \text{ m}$
$= 18 \text{ m}$

The difference in the perimeter of the hall and the room is **18 m**.

Challenge

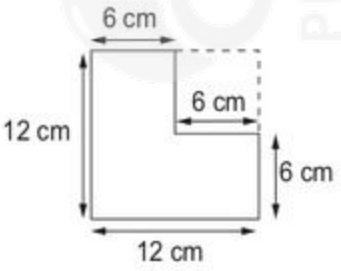
Exercise 1

1.



Ali needs at least **10** such cards to make a square.

2.



Perimeter of each cardboard
= Perimeter of square
$= 4 \times 12 \text{ cm}$
$= 48 \text{ cm}$

Total length of yarn needed
= 10 × 48 cm
= 480 cm

The total length of yarn needed was **480 cm**.

3. Area of 1st carpet
= 3 × 2
= 6 m^2

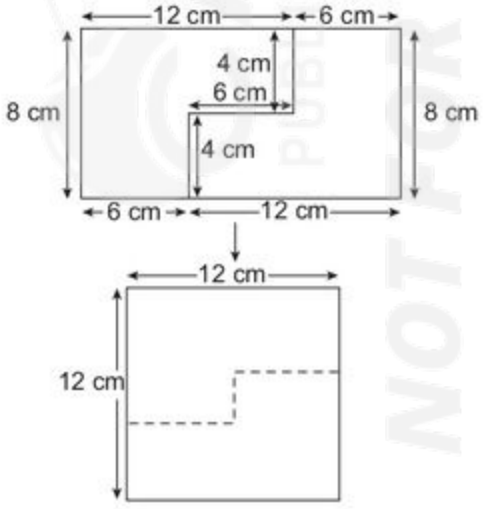
Area of 2nd carpet
= 5 × 3
= 15 m^2

Area of bedroom
= 18 × 9
= 162 m^2

Area of bedroom floor not covered by carpet
= 162 – 6 – 15
= 141 m^2

141 m^2 of her bedroom floor was not covered by the carpets.

4.



The side of the square is **12 cm**.

5. Area of each small square
= 256 cm^2 ÷ 4
= 64 cm^2

8 × 8 = 64 cm^2

Length of each side of small square
= 8 cm

AD = 4 × 8 cm = 32 cm
AB = 5 × 8 cm = 40 cm

Perimeter of Rectangle ABCD
= 40 + 32 + 40 + 32
= 144 cm

The perimeter of Rectangle ABCD is **144 cm**.

6. Area of each rectangle
= 192 cm^2 ÷ 4
= 48 cm^2

Length of each rectangle
= 48 cm^2 ÷ 4 cm
= 12 cm

Perimeter of each rectangle
= 12 + 4 + 12 + 4
= 32 cm

The perimeter of one of the rectangles is **32 cm**.

7. Perimeter of figure
= 12 × 4 cm
= 48 cm

The perimeter of the figure is **48 cm**.

8.

	A	B	C	D	E	F
No. of squares	3	6	10	15	21	28
		+3	+4	+5	+6	+7

Area of F = 28×4 cm^2
= 112 cm^2

The area of Figure F will be **112 cm^2**.

9. Length + Breadth = 40 cm ÷ 2
12 cm + Breadth = 20 cm
Breadth = 20 cm – 12 cm
= 8 cm

Area of paper
= 12×8
= 96 cm^2

Area of Square A
= 8×8
= 64 cm^2

Area of Square B
= 4×4
= 16 cm^2

Area of paper left
= 96 – 64 – 16
= 16 cm^2

16 cm^2 of the paper is left.

10. Use guess and check.

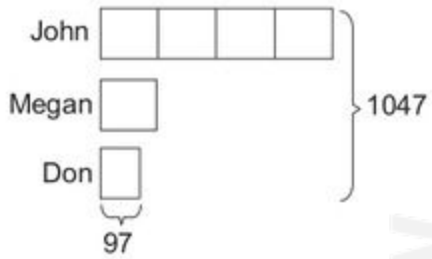
Side of Square A	Area of Square A	Side of Square B	Area of Square B	Total area	Check
6 cm	6×6 = 36 cm^2	3 cm	3×3 = 9 cm^2	36 + 9 = 45 cm^2	✗
8 cm	8×8 = 64 cm^2	4 cm	4×4 = 16 cm^2	64 + 16 = 80 cm^2	✓

Perimeter of Square A
= 4×8 cm
= 32 cm

The perimeter of Square A is **32 cm**.

Challenging Problems

1.



(a) 5 units = 1047 – 97
= 950 stickers
1 unit = 950 ÷ 5
= 190 stickers

Megan collected **190** stickers.

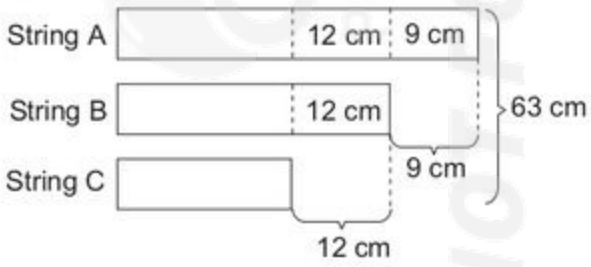
(b) 4 units = 4 × 190
= 760 stickers

John collected **760** stickers.

2. 2 × 68 = 136
486 – 136 = 350
350 ÷ 7 = 50

He packed **50** durians into each basket.

3.



(a) 3 units = 63 – 12 – 9 – 12
= 30 cm
1 unit = 30 cm ÷ 3
= 10 cm

10 + 12 = 22 cm

The length of String B is **22 cm**.

(b) 2 units = 2 × 10 cm
= 20 cm

20 + 12 + 9 = 41 cm

The total length of String A and String C is **41 cm**.

4. (a) 5 kg ÷ 5 = 1 kg
The mass of 1 packet of sugar is **1 kg**.

(b) 1800 g – 1 kg
= 1800 g – 1000 g
= 800 g

The mass of 1 packet of flour is 800 g.

1500 g + 800 g = 2300 g

The total mass of the bag of rice and the packet of flour is **2300 g**.

5. 2 bags + 5 T-shirts → \$246

×2 ↓ 4 bags + 10 T-shirts → 2 × \$246
= \$492

4 bags + 9 T-shirts → \$474

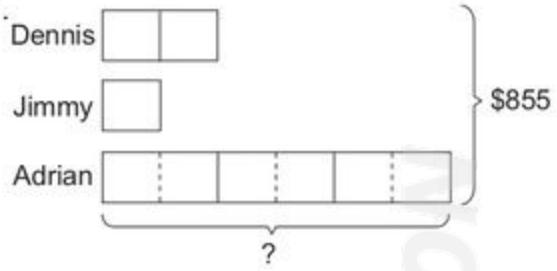
1 T-shirt → \$492 – \$474
= \$18

Each T-shirt costs **\$18**.

6. $3800 – $2808 = $992
$992 ÷ 8 = $124

Each child receives **$124**.

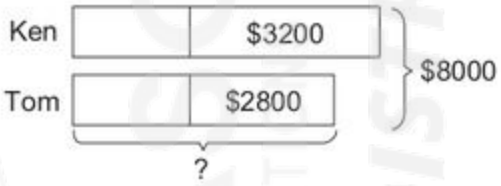
7.



9 units = $855
1 unit = $855 ÷ 9
= $95
6 units = 6 × $95
= $570

Adrian saved **$570**.

8.

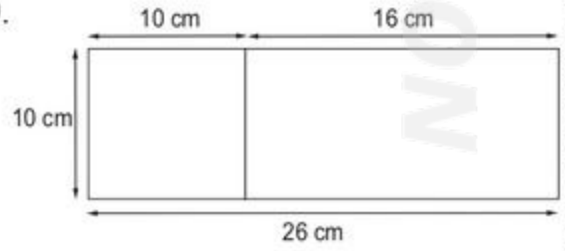


2 units = $8000 – $3200 – $2800
= $2000
1 unit = $2000 ÷ 2
= $1000

$1000 + $2800 = $3800

Tom had **$3800** at first.

9.



Perimeter of square = 40 cm

Length of each side of square
= 40 cm ÷ 4
= 10 cm

Area of figure
= 26 × 10
= 260 cm^2

The area of the figure is **260 cm^2**.

10. (a) Area of rectangle
= 16 × 4
= 64 cm^2

Area of square = 64 cm^2
8 × 8 = 64

The length of the square is **8 cm**.

(b) Perimeter of square
= 4 × 8 cm
= 32 cm

2 × 32 cm = 64 cm

The perimeter of 2 such squares is **64 cm**.

11. Mass of 5 balls
= 560 g – 160 g
= 400 g

Mass of 1 ball
= 400 g ÷ 5
= 80 g

Mass of 3 balls
= 3 × 80 g
= 240 g

Mass of tin with 3 balls
= 160 g + 240 g
= 400 g

The mass of the tin containing 3 such balls is **400 g**.

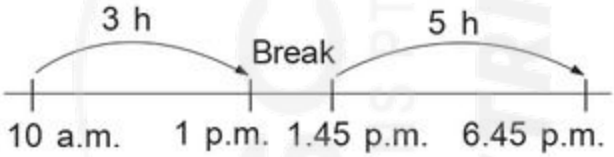
12. 1 pizza ⟶ 8 slices
7 pizzas ⟶ 7 × 8 = 56 slices

Number of children
= 5 + 4
= 9

56 ÷ 9 = 6 R 2

2 slices of pizza was left.

13.



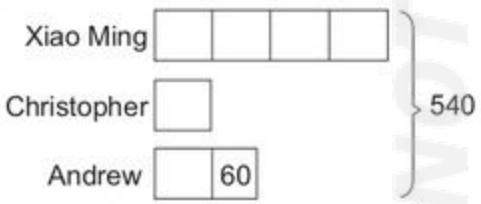
3 h + 5 h = 8 h
8 × $5 = $40

She earns $40 in a day.

7 × $40 = $280

She earns **$280** in a week.

14.



6 units = 540 – 60
= 480 stamps
1 unit = 480 ÷ 6
= 80 stamps

Christopher has 80 stamps.

80 + 60 = 140

Andrew has 140 stamps.

4 units = 4 × 80
= 320 stamps

Xiao Ming has 320 stamps.

540 ÷ 3 = 180 stamps

180 – 80 = 100
Xiao Ming must give **100** stamps to Christopher.

180 – 140 = 40

Xiao Ming must give **40** stamps to Andrew.

15. $192 ÷ $8 = 24
She bought 24 T-shirts.

1 T-shirt ⟶ 2 key chains
24 T-shirts ⟶ 2 × 24 = 48 key chains

Auntie Toh could have bought **48** key chains.

16. Use guess and check.

Number of boys	Number of bars of chocolates	Number of girls	Number of bars of chocolates	Difference in the number of bars of chocolates	Check
8	8 × 3 = 24	22	22 × 2 = 44	44 – 24 = 20	✗
10	10 × 3 = 30	20	20 × 2 = 40	40 – 30 = 10	✓

20 – 10 = 10

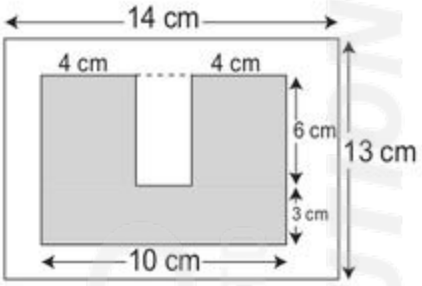
10 more girls than boys attended the party.

17.

		1	2	3	(4)
Vera	10 × $5 = $50	$55	$60	$65	$70
Fatimah	3 × $10 = $30	$40	$50	$60	$70

Both of them will have saved the same amount in **4** days.

18.



(a) Perimeter of cut-out
= 10 + 9 + 10 + 9 + 6 + 6
= 50 cm

The perimeter of the cut-out figure is **50 cm**.

(b) Area of cut-out figure
= (10 × 9) – (6 × 2)
= 90 – 12
= 78 cm^2

Area of rectangular piece of paper
= 14 × 13
= 182 cm^2

182 cm^2 – 78 cm^2 = 104 cm^2

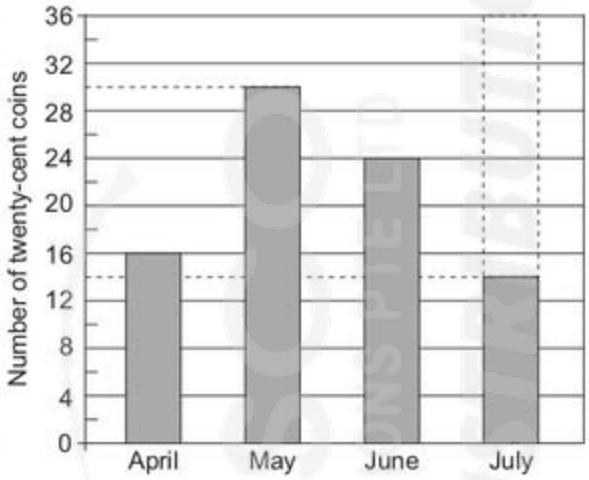
The area of the piece of paper that is left is **104 cm^2**.

19. 6 × 8 = 48
Jing Jing could fold 48 paper flowers in 6 minutes.

Minute		1	2	3	4	5	6
Faith	(12)	18	24	30	36	42	48
Jing Jing	0	8	16	24	32	40	48

Faith had folded **12** paper flowers before Jing Jing started.

20.



(a) $2 = 10 twenty-cent coins
24 – 10 = 14

He saved **14** twenty-cent coins in July.

(b) 16 × 20¢ = $3.20
30 × 20¢ = $6
24 × 20¢ = $4.80
14 × 20¢ = $2.80

$3.20 + $6 + $4.80 + $2.80
= $16.80

Joseph saved **$16.80** altogether.

Trial Examination 1

Section A

1. **(3)**
In 5482, the digit 4 stands for 4 hundreds.

2. **(3)**
43 hundreds + 13 tens
= 4300 + 130
= 4430

4430 – 87 tens
= 4430 – 870
= 3560

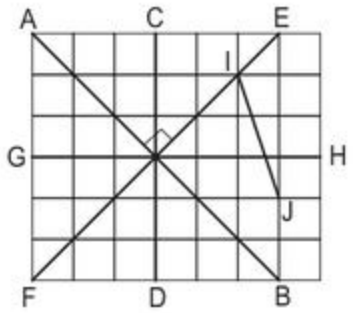
3. **(4)**
83 × 9 = 747
747 + 1 = 748

4. **(3)**
41 tens × 8
= 410 × 8
= 3280
= 328 tens

5. **(3)**
$\frac{2}{3}$ is in it simplest form.

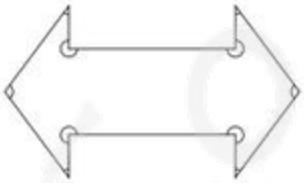
6. **(3)**
4 h = 4 × 60 min = 240 min

7. **(2)**



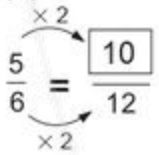
EF is perpendicular to AB.

8. **(2)**

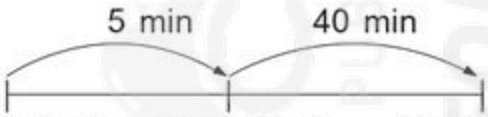


There are 10 angles in the figure.

9. **(3)**

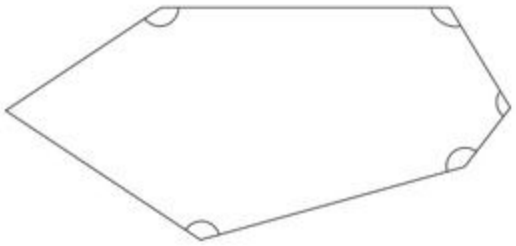


10. **(1)**



45 minutes after 11.55 p.m. is 12.40 a.m.

11. **(3)**



There are 5 obtuse angles in the figure.

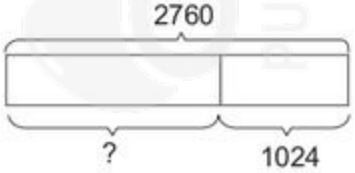
Tip An obtuse angle is greater than a right angle.

12. **(3)**
Area of shaded figure
$= 18 \text{ cm}^2$

13. **(3)**
$300 - 125 = 175$
Uncle Tim sold 175 fewer balloons on Monday than on Thursday.

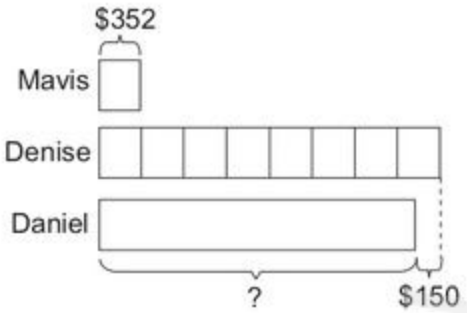
14. **(2)**
$350 - 250 = 100$
Uncle Tim sold 100 more balloons on Wednesday than on Tuesday.

15. **(2)**



$2760 - 1024 = 1736$
Samuel had 1736 paper clips at first.

16. **(2)**

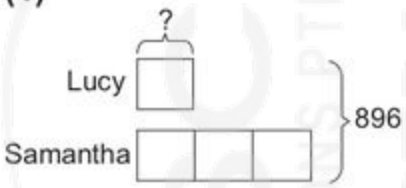


1 unit = \$352
8 units = $8 \times$ \$352
= \$2816

\$2816 – \$150 = \$2666

Daniel saved \$2666.

17. **(1)**



4 units = 896 seashells
1 unit = $896 \div 4$
= 224 seashells

Lucy collected 224 seashells.

18. **(2)**
$2\ l - 250$ ml
= 2000 ml – 250 ml
= 1750 ml

Jack must pour 1750 ml more water into the pail.

19. **(4)**
Breadth = 5 cm
Length = 2×5 cm = 10 cm

Area of rectangle
$= 10 \times 5$
$= 50 \text{ cm}^2$

20. **(1)**
Perimeter of square
= 4 × 5 cm
= 20 cm

Perimeter of rectangle
= 6 + 3 + 6 + 3
= 18 cm

Difference
= 20 cm – 18 cm
= 2 cm

Section B

21. Greatest 4-digit odd number
= **8703**

22. 3290 – 32 hundreds
= 3290 – 3200
= 90

15 tens + 90
= 150 + 90
= 240

The answer is **240**.

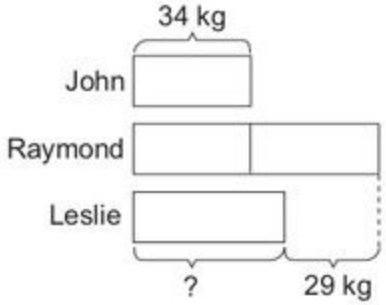
23.  = 35 ÷ 7 = 5

50 ÷ 5 = 10

10  will represent 50.

24. 45 ÷ 3 = 15
15 × $2 = $30

She needs **$30**.

25. 

1 unit = 34 kg
2 units = 2 × 34 kg
= 68 kg

68 kg – 29 kg = 39 kg

Leslie's mass is **39 kg**.

26. The fractions arranged beginning with the smallest are:

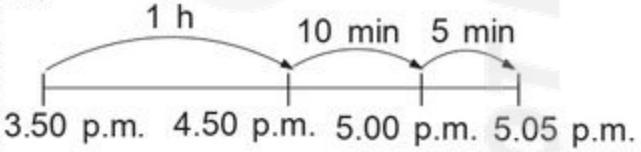
$\frac{1}{7}, \frac{2}{7}, \frac{4}{7}, \frac{6}{7}$

27. $150 – $60 = $90

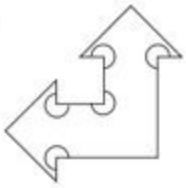
Brian saved **$90** more than Sean.

28. $120 + $150 + $60 + $90 = $420

The four children saved **$420** altogether.

29. 

He finished his homework at **5.05 p.m.**

30. 

There are **5** angles bigger than a right angle in the figure.

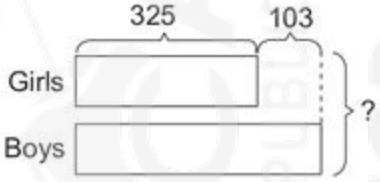
31. Area of Rectangle A
$= 8 \times 5$
$= 40\ cm^2$

Area of Rectangle B
$= 9 \times 6$
$= 54\ cm^2$

Total area
$= 40\ cm^2 + 54\ cm^2$
$= \mathbf{94\ cm^2}$

32. $5 \times 24 = 120$
$120 \div 6 = 20$

There are **20** pens in each new box.

33. 

$325 + 103 = 428$
428 boys went to school last Saturday morning.

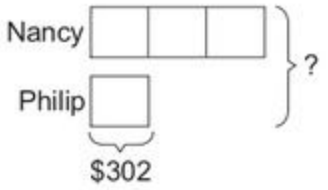
$325 + 428 = 753$

753 pupils went to school that morning.

34. 16 hundreds = 1600

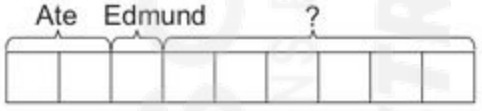
1600, 1601, 1602, 1603
Odd Even

The odd number is **1601**.

35. 

1 unit = $302
4 units = $4 \times$ $302
= $1208

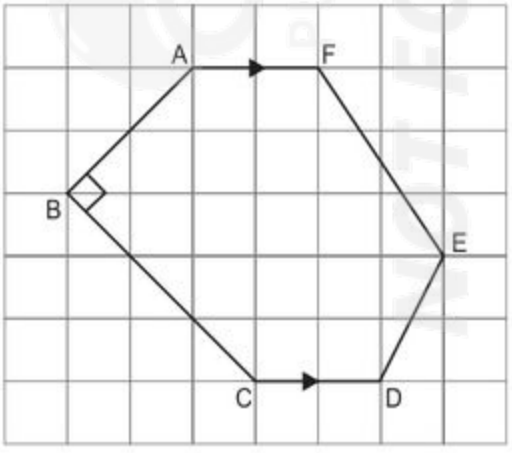
They spent **$1208** altogether.

36. 

$9 - 2 - 1 = 6$

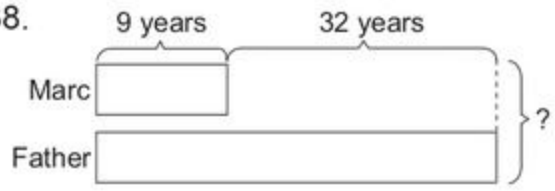
$\frac{6}{9} = \frac{2}{3}$

$\frac{\mathbf{2}}{\mathbf{3}}$ of the cake was left.

37. 

(a) **AF** and **CD**
(b) **AB** and **BC**

38.



32 + 9 = 41
His father is 41 years old now.

9 + 41 + 3 + 3 = 56

Their total age in 3 years' time is **56** years.

39. Perimeter of figure
= 9 + 4 + 10 + 5 + 13 + 5 + 12
= **58 cm**

40. 1540 m + 1540 m = 3080 m
She walked **3080 m** altogether.

Section C

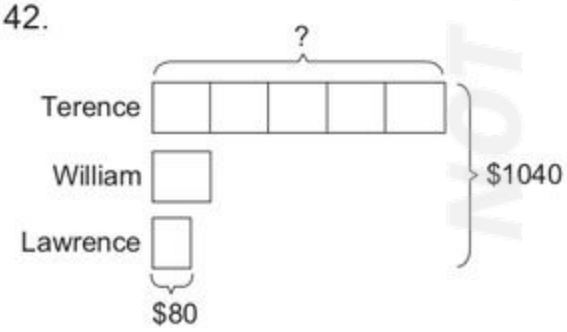
41. $1 - \frac{1}{4} - \frac{1}{8} - \frac{1}{2}$

$= \frac{8}{8} - \frac{2}{8} - \frac{1}{8} - \frac{4}{8}$

$= \frac{1}{8}$

$\frac{1}{8}$ of his monthly income was savings.

42.



6 units = \$1040 – \$80
= \$960
1 unit = \$960 ÷ 6
= \$160
5 units = 5 × \$160
= \$800

Terence saved **\$800**.

43. (a) 2 × 12 = 24
There were **24** stickers in the first 2 rows.

(b) 8 – 2 = 6
6 × 32 = 192
24 + 192 = 216

She had **216** stickers altogether.

44. (a) Area of Rectangle A
= 9 × 8
= 72 cm^2

Area of Square B
= 72 cm^2 ÷ 2
= 36 cm^2

The area of Square B is **36 cm^2**.

(b) Perimeter of Rectangle A
= 9 + 8 + 9 + 8
= 34 cm

6 × 6 = 36 cm^2

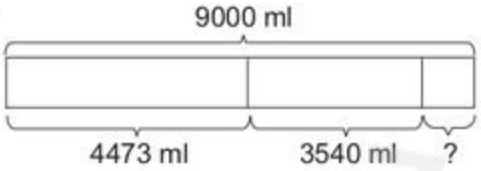
The length of each side of Square B is 6 cm.

Perimeter of Square B
= 4 × 6
= 24 cm

34 cm + 24 cm = 58 cm

The perimeter of the two figures is **58 cm**.

45.



4473 ml + 3540 ml = 8013 ml
9000 ml – 8013 ml = 987 ml

He used **987 ml** of paint for the hall.

Trial Examination 2

Section A

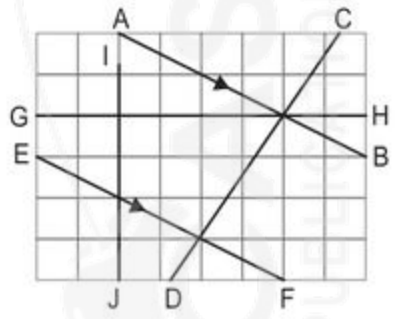
1. **(2)**
   8952 = 8000 + 900 + 50 + 2

2. **(1)**
   82 tens – 12 tens
   = 820 – 120
   = 700
   = 7 hundreds

3. **(1)**
   436 ÷ 5 = 87 R 1
   The remainder is 1.

4. **(3)**
   $5 = 500¢

5. **(1)**



   AB // EF

6. **(1)**
   The most popular colour among the children is red.

7. **(2)**
   60 – 36 = 24
   24 more children prefer blue to green.

8. **(3)**

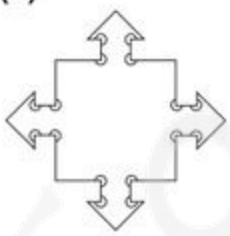
$\frac{9}{12} = \frac{3}{4}$

$\frac{9}{12}$ is the same as 3 out of 4 equal parts.

9. **(2)**

The time shown on the clock is 20 minutes to 1.

10. **(3)**



There are 16 angles bigger than a right angle in the figure.

11. **(2)**

Length of each side of square
= 36 cm ÷ 4
= 9 cm

12. **(4)**

4000

3278 + 1034 = 4312

The value of the digit 4 is 4000.

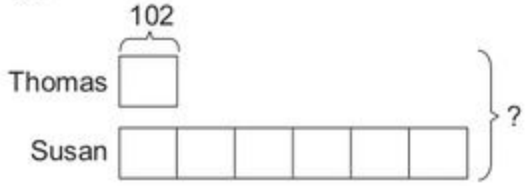
13. **(4)**

103 + 129 = 232

232 × $5 = $1160

The children have $1160 with them.

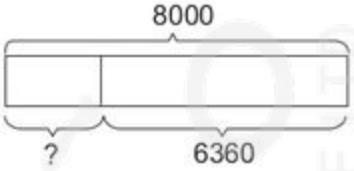
14. **(4)**



1 unit = 102 cupcakes
7 units = 7 × 102
= 714 cupcakes

They baked 714 cupcakes in all.

15. **(1)**



8000 – 6360 = 1640
John had 1640 stamps at first.

16. **(2)**

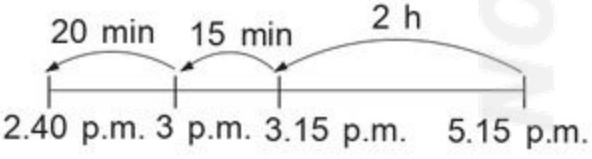
533 cm – 165 cm – 190 cm
= 178 cm

The height of the third boy is 178 cm.

17. **(3)**

$\frac{8}{12} = \frac{2}{3}$

18. **(2)**



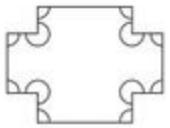
He started playing at 2.40 p.m.

19. **(2)**

Option (1):

7 angles

Option (2):

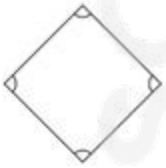


12 angles (✓)

Option (3):

4 angles

Option (4):



4 angles

20. **(1)**

Area of square
$= 4 \times 4$
$= 16 \text{ cm}^2$

Area of rectangle
$= 5 \times 2$
$= 10 \text{ cm}^2$

Difference
$= 16 \text{ cm}^2 - 10 \text{ cm}^2$
$= 6 \text{ cm}^2$

Section B

21. $568 - 21$ tens
$= 568 - 210$
$= 358$

The value of the digit 5 is **50**.

22. $325 + 546 = 871$
$871 \times 6 = 5226$

The answer is **5226**.

23. $11 \times 6 = 66$

The number is **66**.

24. $12 \times \$4 = \$48$
$25 \times \$3 = \$75$
$\$75 - \$48 = \$27$

The girls saved **$27** more than the boys.

25. 435 ml + 105 ml = 540 ml

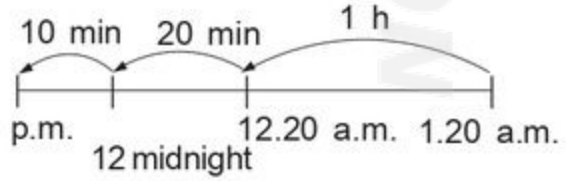
The capacity of Container C is **540 ml**.

26. $\frac{3}{5} = \frac{9}{15}$ (×3)

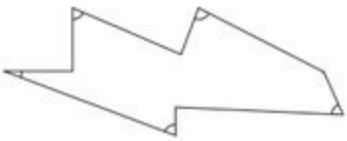
$9 - 4 = 5$

5 more squares must be shaded.

27.



1 h 30 min before 1.20 a.m. is **11.50 p.m.**

28. 

There are **5** angles smaller than a right angle in the figure.

29. Terence sold the least number of cars in **March**.

30. 19 + 21 = 40
40 – 18 = 22

Terence sold **22** more cars in January and February together than in April.

31. Breadth = 6 cm
Length = 4 × 6 cm
= 24 cm

Area of rectangle
= 24 × 6
= **144 cm²**

32. +80, −40, +80, −40, +80
3256, 3336, 3296, 3376, 3336, 3416

3336 + 80 = 3416

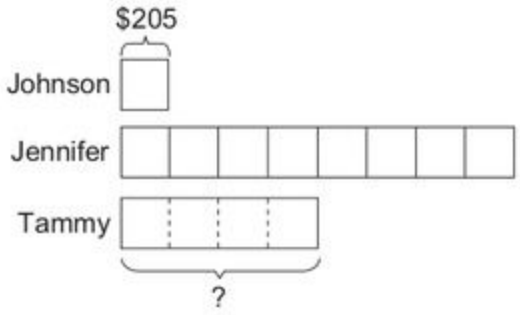
The missing number in the number pattern is **3416**.

33. 9 × 25 = 225
225 ÷ 5 = 45

There were **45** mangoes in each basket.

34. 3290 – 534 = 2756

There were **2756** pupils before the increase.

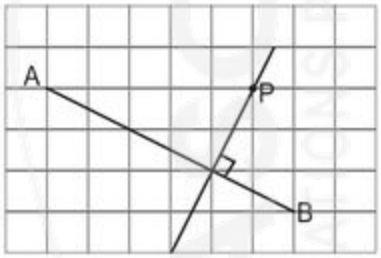
35. 

1 unit = $205
4 units = 4 × $205
= $820

Tammy saved **$820**.

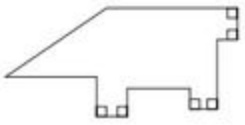
36. $6\frac{2}{3} = \frac{20}{3}$

There are **20** thirds in $6\frac{2}{3}$.

37. 

38. 60 *l* – 32 *l* = 28 *l*
28 *l* ÷ 4 *l* = 7

7 jugs are required.

39. 

There are **6** right angles in the figure.

40. Area of Square A
= 5 × 5
= 25 cm²

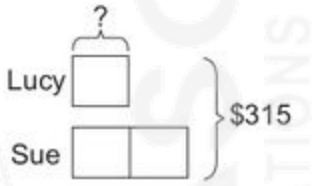
Area of Rectangle B
= 6 × 2
= 12 cm²

Area of Rectangle C
= 8 × 3
= 24 cm²

Total area
= 25 + 12 + 24
= **61 cm²**

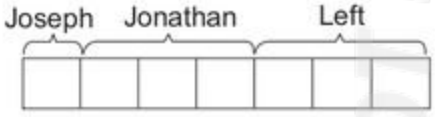
Section C

41. $600 – $285 = $315



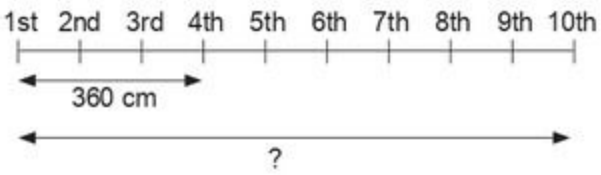
3 units = $315
1 unit = $315 ÷ 3
= $105

Lucy saved **$105**.

42. 

(a) Jonathan ate $\frac{3}{7}$ of the pizza.

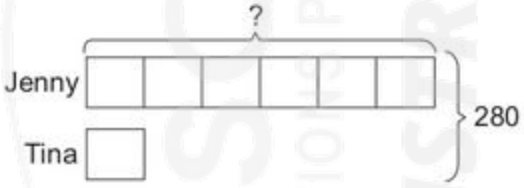
(b) $\frac{3}{7}$ of the pizza was left.

43. 

Distance between 2 consecutive cones
= 360 cm ÷ 3
= 120 cm

Distance between 1st and 10th cones
= 9 × 120 cm
= 1080 cm

The distance between the 1st and the last cone was **1080 cm**.

44. 

7 units = 280 stickers
1 unit = 280 ÷ 7
= 40 stickers
6 units = 6 × 40
= 240 stickers

Jenny has **240** stickers.

45. 1 h 45 min – 30 min = 1 h 15 min

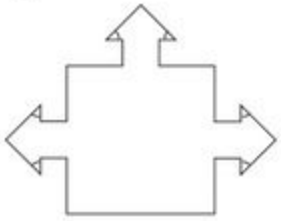
1 h 45 min + 1 h 15 min
= 2 h 60 min
= 3 h

Monica takes **3** h to travel to my place, pick me up then get to Charmaine's home.

Trial Examination 3

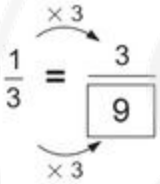
Section A

1. **(1)**



There are 6 acute angles in the figure.

2. **(2)**



3. **(4)**
3 thousands 18 hundreds
= 3000 + 1800
= 4800

29 hundreds = 2900

4800 + 2900 = 7700

The answer is 7700.

4. **(3)**
Option (1): 7 + 7 + 7 + 7 = 4 × 7 (✓)
Option (2): 5 groups of 9 = 5 × 9 (✓)
Option (3): 6 + 6 + 6 + 6 + 6
= 6 × 6 (✗)
6 + 6 + 6 + 6 + 6 = 5 × 6
Option (4): 5 fives = 5 + 5 + 5 + 5 + 5 (✓)

5. **(2)**
20 minutes to 12 noon can be written as 11.40 a.m.

6. **(2)**
Mass of each can
= 900 g ÷ 5
= 180 g

7. **(2)**
+ 200, + 100, + 200, + 100, + 200
2809, 3009, 3109, 3309, 3409, 3609

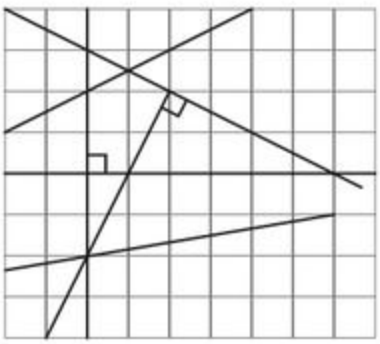
The missing number in the number pattern is 3409.

8. **(1)**
2 *l* 45 ml
= 2000 ml + 45 ml
= 2045 ml

9. **(2)**
248 cm ÷ 4 = 62 cm
The length of each piece of string is 62 cm.

10. **(3)**
Option (1): $3.20 (✓)
Option (2): $3.20 (✓)
Option (3): $3.10 (✗)
Option (4): $3.20 (✓)

11. **(2)**



There are 2 pairs of perpendicular lines in the figure.

12. **(1)**

$$\frac{3}{6} + \frac{1}{6} - \frac{1}{3}$$
$$= \frac{3}{6} + \frac{1}{6} - \frac{2}{6}$$
$$= \frac{2}{6}$$
$$= \frac{1}{3}$$ ← 1 third

13. **(3)**

3×185 ml $= 555$ ml
2×555 ml $= 1110$ ml

2 such tanks can hold 1110 ml of water.

14. **(3)**

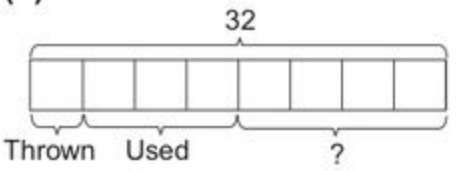
Area of big rectangle
$= 16 \times 12$
$= 192$ cm^2

Area of small rectangle
$= 8 \times 4$
$= 32$ cm^2

Area of square
$= 4 \times 4$
$= 16$ cm^2

Area of shaded part
$= 192 - 32 - 16$
$= 144$ cm^2

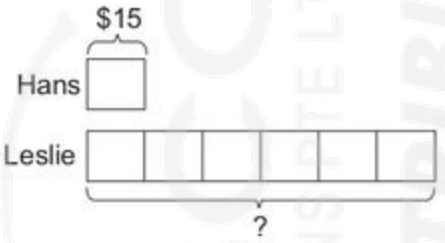
15. **(2)**



8 units = 32 eggs
1 unit = 32 ÷ 8
= 4 eggs
4 units = 4 × 4
= 16 eggs

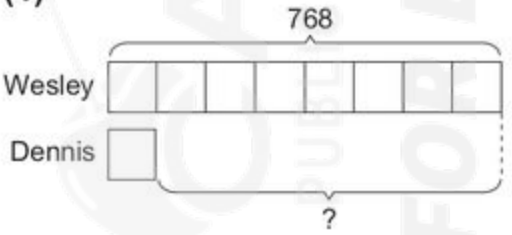
He had 16 eggs left.

16. **(4)**



6 × $15 = $90
Leslie saved $90.

17. **(1)**

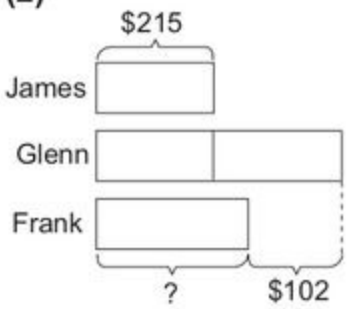


8 units = 768 balloons
1 unit = 768 ÷ 8
= 96 balloons
7 units = 7 × 96
= 672 balloons

Wesley sold 672 more balloons than Dennis.

18. **(1)**
1021 – 258 – 293 = 470
There were 470 children.

19. **(2)**



1 unit = $215
2 units = 2 × $215
= $430 (Glenn)

$430 – $102 = $328

Frank spent $328.

20. **(1)**
Perimeter of each triangular garden
= 336 m ÷ 4
= 84 m

Length of each side
= 84 m ÷ 3
= 28 m

Section B

21. $\frac{1}{12}, \frac{3}{4} = \frac{9}{12}, \frac{5}{6} = \frac{10}{12}, \frac{1}{2} = \frac{6}{12}$

The fractions arranged from the greatest are:

$\mathbf{\frac{5}{6}, \frac{3}{4}, \frac{1}{2}, \frac{1}{12}}$

22. Greatest number = 9831
Smallest number = 1389

Difference = 9831 – 1389
= **8442**

23. 18 hundreds + 87 tens
= 1800 + 870
= 2670

2670 – 23 tens
= 2670 – 230
= 2440

The answer is **2440**.

24. 510 ÷ 9 = 56 R 6
The quotient is **56** and remainder is **6**.

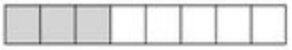
25. 3 × 3 = 9 cm^2
Length of each side of square
= 3 cm

Perimeter of figure
= 16 × 3
= **48 cm**

26. ☆ × ⬡ = 342
⬡ × ⬡ = 81
⬡ = 9
☆ = 342 ÷ 9
= 38
☆ + ☆ = 38 + 38
= **76**

27. $\frac{1}{4} = \frac{2}{8}$, $\frac{1}{2} = \frac{4}{8}$

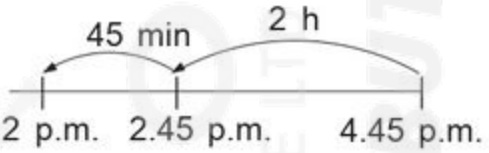
$\frac{3}{8}$ is greater than $\frac{1}{4}$ but less than $\frac{1}{2}$.



28. 1 face ⟶ 4 right angles
6 faces ⟶ 6 × 4 = 24 right angles

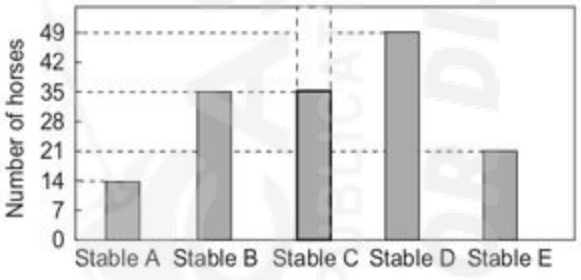
The total number of right angles of the square box is **24**.

29.



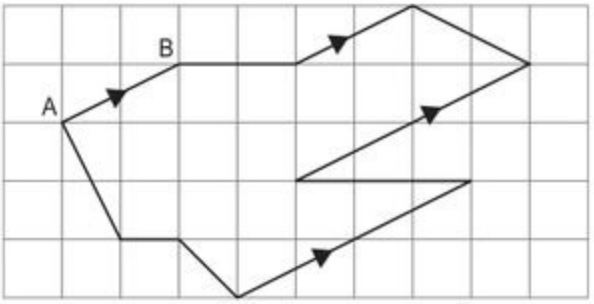
The movie started at **2 p.m.**

30. 154 – 14 – 35 – 49 – 21 = 35
There are 35 horses in Stable C.



31. Stable **B** and Stable **C** have the same number of horses.

32.



3 lines are parallel to AB in the figure.

33.

Day	2	4	6	8	10	12	14
12 cm	15 cm	18 cm	21 cm	24 cm	27 cm	30 cm	33 cm

The plant will be **33 cm** tall after 2 weeks.

34. Mass of each ◯
= 160 g ÷ 4
= 40 g

Mass of the can of baked beans
= 6 × 40 g
= **240 g**

35. Cost of 3 photo albums
= 3 × $18
= $54

Cost of 2 notebooks
= $70 – $54
= $16

Cost of 1 notebook
= $16 ÷ 2
= $8

Cost of 5 notebooks
= 5 × $8
= **$40**

36. $35 \div 5 = 7$
$7 \times 3 = 21$

She can bake **21** cakes.

37. $1 - \frac{1}{3} - \frac{1}{4}$
$= \frac{12}{12} - \frac{4}{12} - \frac{3}{12}$
$= \frac{5}{12}$

Claire ate $\frac{\mathbf{5}}{\mathbf{12}}$ of the pizza.

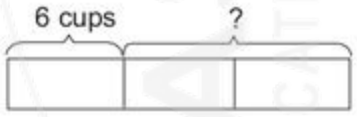
38. $2 \times 103 = 206$ (Girls)
$206 - 98 = 108$ (Adults)
$103 + 206 + 108 = 417$

There were **417** people altogether.

39. $9 \times 18 = 162$
$162 + 11 = 173$

She had **173** rulers at first.

40.

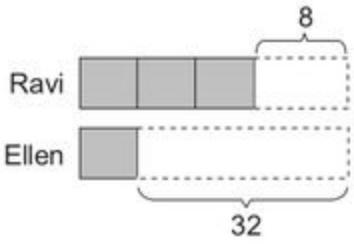


1 unit = 6 cups
2 units = 2×6
= 12 cups

Margaret must pour **12** cups of water into the pot to fill it up completely.

Section C

41.

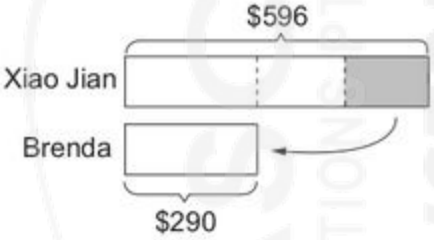


2 units = 32 – 8
= 24 stickers
1 unit = 24 ÷ 2
= 12 stickers

32 + 12 = 44

44 stickers were given to each of them.

42.



2 units = $596 – $290
= $306
1 unit = $306 ÷ 2
= $153

Xiao Jian gave **$153** to Brenda.

43. $12 \times 12 = 144$ m^2
The length of each side of the square hall is 12 m.

$3 \times 3 = 9$ m^2
The length of each side of the square carpet is 3 m.

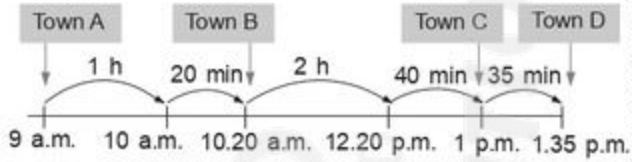
Perimeter of square hall
$= 4 \times 12$ m
= 48 m

Perimeter of square carpet
= 4 × 3
= 12 m

48 m – 12 m = 36 m

The difference in the perimeter of the square hall and the square carpet is **36 m**.

44.

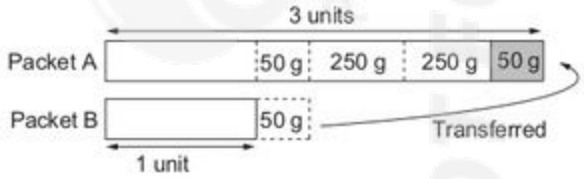


He reached Town D at **1.35 p.m.**

45. 1st situation:

At first:

2nd situation:



2 units = 50 g + 250 g + 250 g + 50 g
= 600 g
1 unit = 600 g ÷ 2
= 300 g
3 units = 3 × 300 g
= 900 g

900 g – 50 g = 850 g

There is **850 g** of sugar in Packet A at first.