ANSWERS

Chapter 1   NUMBERS TO 10,000

Exercise 1A   Place Value

1. 2,236

2. **(a)** 3,104   **(b)** 7,035   **(c)** 5,230

3. **(a)** thousands; 4,000

   (b) hundreds; 300

   (c) 1; 10

   (d) 5; 5

4. **(a)** 3,711   **(b)** 4,009

   (c) 5,243   **(d)** 8,204

5. **(a)** three thousand, eight hundred five

   (b) five thousand, one

   (c) seven thousand, two hundred ninety

   (d) nine thousand, eighteen

6. **(a)** 1,379   **(b)** 2,025

   (c) 4,580   **(d)** 6,903

7. **(a)** 800   **(b)** 1

   (c) 4,000   **(d)** 300

8. **(a)** 3,000   **(b)** 3

9. **(a)** 2   **(b)** 10

   (c) 300   **(d)** 0

10. 7,068

Exercise 1B   Compare and Order Numbers

1. 6,452;

   4,625;

   4,625 is less than 6,452.

   4,625 < 6,452
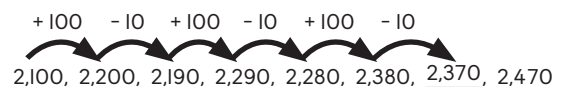
2. 7,923 is greater than 7,392.

   7,923 > 7,392

3. **(a)** 6,137   (8,137)   **(b)** (4,382)   4,352

4. **(a)** (6,624)   6,824   **(b)** 8,107   (8,017)

5. **(a)** >   **(b)** <   **(c)** =   **(d)** >

6. **(a)** 2,310   3,102   (3,210)

   (b) (9,780)   9,087   9,708

7. 4,009, 4,067, 4,135, 4,302

   least ———————— greatest

Exercise 1C   Number Patterns

1. **(a)** 3,672   **(b)** 3,782   **(c)** 4,682

2. **(a)**

Thousands	Hundreds	Tens	Ones
6	1	5	4

   (b) 6,164   **(c)** 6,054   **(d)** 5,154

3. **(a)** 1   **(b)** 10

   (c) 100   **(d)** 1,000

4. **(a)** 7,660   **(b)** 7,669

   (c) 7,759   **(d)** 8,659

5. **(a)** 4,013   **(b)** 4,040

   (c) 4,310   **(d)** 7,010

6. **(a)** 6,055, 6,155, 6,255, 6,355, 6,455

   (b) 5,361, 6,361, 7,361, 8,361, 9,361

   (c) 2,409, 2,399, 2,389, 2,379, 2,369

   (d) 9,652, 8,652, 7,652, 6,652, 5,652

   (e) 3,726, 3,626, 3,526, 3,426, 3,326

7.

   +100 −10 +100 −10 +100 −10

   2,100, 2,200, 2,190, 2,290, 2,280, 2,380, 2,370, 2,470

   Number pattern: Add 100, then subtract 10.
   2,380 − 10 = 2,370
   2,370 + 100 = 2,470
   The missing number is 2,370.

Exercise 1D   Rounding Numbers

1. **(a)** 108 is nearer to __110__ than to __100__.
108 is __110__ when rounded to the nearest ten.

(b) 115 is halfway between __110__ and __120__.
115 is __120__ when rounded to the nearest ten.

2. 5,630 is nearer to __5,600__ than to __5,700__.
5,630 is __5,600__ when rounded to the nearest hundred.

3. **(a)** 320 **(b)** 600
(c) 1,020 **(d)** 4,760

4. **(a)** 2,300 **(b)** 3,100
(c) 5,600 **(d)** 7,600

5.

Number	Round to the nearest ten	Round to the nearest hundred
1,824	1,820	1,800
2,055	2,060	2,100
6,238	6,240	6,200

6. 844 is 840 when rounded to the nearest ten.
855 is 860 when rounded to the nearest ten.

These numbers when rounded to the nearest ten is 850:
845, 846, 847, 848, 849, 850, 851, 852, 853, and 854
So, the greatest possible number is 854.

Chapter Practice

1. B **2.** C

3. D **4.** C

5. A **6.** 100

7. 5,908

8. 700 + 9 + 4,000 = 4,709
70 + 900 + 4,000 = 4,970

Since 4,709 < 4,970,

700 + 9 + 4,000 (<) 70 + 900 + 4,000

9.

3,150   3,249

3,100   3,200   3,300
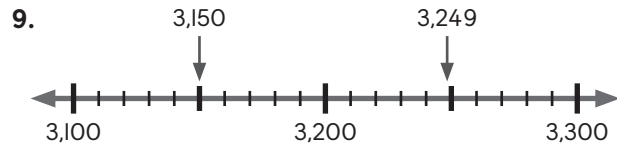
The greatest possible number is 3,249.
The least possible number is 3,150.

10. I disagree. Jack interprets the sentence incorrectly.

−1,000

5,041   6,041
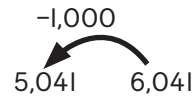
To find the missing number, we need to add instead.
6,014 + 1,000 = 7,014

11.

	Number formed	Rounded to the nearest ten	Rounded to the nearest hundred
Adam	6,120	–	6,100
Ben	6,201	6,200	
Charlie	6,210	–	6,200

Chapter 2   ADDITION AND SUBTRACTION WITHIN 10,000

Exercise 2A   Addition and Subtraction Within 1,000 (I)

1. **(a)** 124 + 467 = __591__

```
   1
   1  2  4
+  4  6  7
---------
   5  9  1
```

(b) 385 + 264 = __649__

```
   1
   3  8  5
+  2  6  4
---------
   6  4  9
```

(c) 417 + 391 = __808__

```
   1
   4  1  7
+  3  9  1
---------
   8  0  8
```

(d) 698 + 207 = 905

```
  ₁ ₁
  6 9 8
+ 2 0 7
─────────
  9 0 5
```

(e) 732 + 168 = 900

```
  ₁ ₁
  7 3 2
+ 1 6 8
─────────
  9 0 0
```

2. **(a)** 563 + 197 = 760

```
  ₁ ₁
  5 6 3
+ 1 9 7
─────────
  7 6 0
```

(b) 696 + 208 = 904

```
  ₁ ₁
  6 9 6
+ 2 0 8
─────────
  9 0 4
```

(c) 407 + 396 = 803

```
  ₁ ₁
  4 0 7
+ 3 9 6
─────────
  8 0 3
```

(d) 345 + 567 = 912

```
  ₁ ₁
  3 4 5
+ 5 6 7
─────────
  9 1 2
```

(e) 225 + 487 = 712

```
  ₁ ₁
  2 2 5
+ 4 8 7
─────────
  7 1 2
```

(f) 188 + 699 = 887

```
  ₁ ₁
  1 8 8
+ 6 9 9
─────────
  8 8 7
```

Exercise 2A   Addition and Subtraction Within 1,000 (2)

1. **(a)** 384 – 146 = 238

```
      7  14
  3  8̶  4̶
– 1  4  6
─────────
  2  3  8
```

(b) 890 – 154 = 736

```
      8  10
  8  9̶  0̶
– 1  5  4
─────────
  7  3  6
```

(c) 925 – 433 = 492

```
   8  12
  9̶  2̶  5
– 4  3  3
─────────
  4  9  2
```

(d) 942 – 368 = 574

```
      13
   8  4̶  12
  9̶  4̶  2̶
– 3  6  8
─────────
  5  7  4
```

(e) 700 – 439 = 261

```
      9
   6  10  10
  7̶  0̶  0̶
– 4  3  9
─────────
  2  6  1
```

2. **(a)** 795 – 247 = 548

```
      8  15
  7  9̶  5̶
– 2  4  7
─────────
  5  4  8
```

(b) 806 – 325 = 481

```
   7  10
  8̶  0̶  6
– 3  2  5
─────────
  4  8  1
```

(c) 640 – 417 = 223

```
   3  10
  6  4̶  0̶
– 4  1  7
─────────
  2  2  3
```

(d) $923 - 516 =$ __407__

$$\begin{array}{r} 9\ \overset{1}{\cancel{2}}\ \overset{13}{\cancel{3}} \\ -\ 5\ 1\ 6 \\ \hline 4\ 0\ 7 \end{array}$$

(e) $811 - 267 =$ __544__

$$\begin{array}{r} \overset{7}{\cancel{8}}\ \overset{10}{\overset{\cancel{0}}{\cancel{1}}}\ \overset{11}{\cancel{1}} \\ -\ 2\ 6\ 7 \\ \hline 5\ 4\ 4 \end{array}$$

(f) $723 - 485 =$ __238__

$$\begin{array}{r} \overset{6}{\cancel{7}}\ \overset{11}{\cancel{2}}\ \overset{13}{\cancel{3}} \\ -\ 4\ 8\ 5 \\ \hline 2\ 3\ 8 \end{array}$$

Exercise 2B Addition and Subtraction Within 10,000 (1)

1. **(a)** $1,526 + 321 =$ __1,847__

$$\begin{array}{r} 1\ 5\ 2\ 6 \\ +\ \ \ 3\ 2\ 1 \\ \hline 1\ 8\ 4\ 7 \end{array}$$

(b) $7,146 + 433 =$ __7,579__

$$\begin{array}{r} 7\ 1\ 4\ 6 \\ +\ \ \ 4\ 3\ 3 \\ \hline 7\ 5\ 7\ 9 \end{array}$$

(c) $4,736 + 252 =$ __4,988__

$$\begin{array}{r} 4\ 7\ 3\ 6 \\ +\ \ \ 2\ 5\ 2 \\ \hline 4\ 9\ 8\ 8 \end{array}$$

(d) $2,035 + 2,634 =$ __4,669__

$$\begin{array}{r} 2\ 0\ 3\ 5 \\ +\ 2\ 6\ 3\ 4 \\ \hline 4\ 6\ 6\ 9 \end{array}$$

(e) $3,004 + 5,891 =$ __8,895__

$$\begin{array}{r} 3\ 0\ 0\ 4 \\ +\ 5\ 8\ 9\ 1 \\ \hline 8\ 8\ 9\ 5 \end{array}$$

2. **(a)** $3,424 + 462 =$ __3,886__

$$\begin{array}{r} 3\ 4\ 2\ 4 \\ +\ \ \ 4\ 6\ 2 \\ \hline 3\ 8\ 8\ 6 \end{array}$$

(b) $5,731 + 258 =$ __5,989__

$$\begin{array}{r} 5\ 7\ 3\ 1 \\ +\ \ \ 2\ 5\ 8 \\ \hline 5\ 9\ 8\ 9 \end{array}$$

(c) $1,304 + 2,564 =$ __3,868__

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

(d) $4,310 + 3,485 =$ __7,795__

$$\begin{array}{r} 4\ 3\ 1\ 0 \\ +\ 3\ 4\ 8\ 5 \\ \hline 7\ 7\ 9\ 5 \end{array}$$

(e) $2,544 + 3,125 =$ __5,669__

$$\begin{array}{r} 2\ 5\ 4\ 4 \\ +\ 3\ 1\ 2\ 5 \\ \hline 5\ 6\ 6\ 9 \end{array}$$

(f) $4,050 + 5,927 =$ __9,977__

$$\begin{array}{r} 4\ 0\ 5\ 0 \\ +\ 5\ 9\ 2\ 7 \\ \hline 9\ 9\ 7\ 7 \end{array}$$

Exercise 2B Addition and Subtraction Within 10,000 (2)

1. **(a)** $1,268 + 1,526 =$ __2,794__

$$\begin{array}{r} \overset{1}{\ }\ \\ 1\ 2\ 6\ 8 \\ +\ 1\ 5\ 2\ 6 \\ \hline 2\ 7\ 9\ 4 \end{array}$$

(b) $2,273 + 3,651 =$ __5,924__

$$\begin{array}{r} \overset{1}{\ }\ \\ 2\ 2\ 7\ 3 \\ +\ 3\ 6\ 5\ 1 \\ \hline 5\ 9\ 2\ 4 \end{array}$$

(c) $3,617 + 4,972 =$ __8,589__

$$\begin{array}{r} \overset{1}{\ }\ \\ 3\ 6\ 1\ 7 \\ +\ 4\ 9\ 7\ 2 \\ \hline 8\ 5\ 8\ 9 \end{array}$$

2. **(a)** $2{,}403 + 6{,}297 = \underline{8{,}700}$

```
    ₁ ₁
  2 4 0 3
+ 6 2 9 7
─────────
  8 7 0 0
```

(b) $7{,}852 + 1{,}348 = \underline{9{,}200}$

```
  ₁ ₁ ₁
  7 8 5 2
+ 1 3 4 8
─────────
  9 2 0 0
```

3. Greatest 4-digit odd number: 5,503
Least 4-digit even number: 3,550
Sum = 5,503 + 3,550 = 9,053

4. **(a)**

```
        ₁     ₁   ₁
    3   8  [7]  5
+   2  [7]  4   5
────────────────
   [6]  6   2  [0]
```

(b)

```
       ₁     ₁   ₁
   [7]  1  [9]  8
+   1   8   4   3
────────────────
    9  [0]  4   1
```

Exercise 2B   Addition and Subtraction Within 10,000 (3)

1. **(a)** $3{,}795 - 304 = \underline{3{,}491}$

```
  3 7 9 5
-   3 0 4
─────────
  3 4 9 1
```

(b) $5{,}487 - 423 = \underline{5{,}064}$

```
  5 4 8 7
-   4 2 3
─────────
  5 0 6 4
```

(c) $6{,}546 - 232 = \underline{6{,}314}$

```
  6 5 4 6
-   2 3 2
─────────
  6 3 1 4
```

(d) $8{,}584 - 2{,}023 = \underline{6{,}561}$

```
  8 5 8 4
- 2 0 2 3
─────────
  6 5 6 1
```

(e) $9{,}746 - 5{,}302 = \underline{4{,}444}$

```
  9 7 4 6
- 5 3 0 2
─────────
  4 4 4 4
```

2. **(a)** $4{,}769 - 2{,}145 = \underline{2{,}624}$

```
  4 7 6 9
- 2 1 4 5
─────────
  2 6 2 4
```

(b) $6{,}838 - 3{,}234 = \underline{3{,}604}$

```
  6 8 3 8
- 3 2 3 4
─────────
  3 6 0 4
```

(c) $7{,}647 - 5{,}426 = \underline{2{,}221}$

```
  7 6 4 7
- 5 4 2 6
─────────
  2 2 2 1
```

(d) $9{,}056 - 3{,}004 = \underline{6{,}052}$

```
  9 0 5 6
- 3 0 0 4
─────────
  6 0 5 2
```

3. **(a)**

```
    3   8   9  [7]
-   1   5  [8]  0
────────────────
    2  [3]  1   7
```

(b)

```
   [6]  0   5  [9]
-   4   0  [3]  8
────────────────
    2  [0]  2   1
```

Exercise 2B Addition and Subtraction Within 10,000 (4)

1. (a) 3,482 − 1,375 = <u>2,107</u>

$$\begin{array}{r} \overset{7}{\cancel{8}}\overset{12}{\cancel{2}} \\ 3\ 4\ \cancel{8}\ \cancel{2} \\ -\ 1\ 3\ 7\ 5 \\ \hline 2\ 1\ 0\ 7 \end{array}$$

(b) 6,255 − 2,643 = <u>3,612</u>

$$\begin{array}{r} \overset{5}{\cancel{6}}\overset{12}{\cancel{2}}\ 5\ 5 \\ -\ 2\ 6\ 4\ 3 \\ \hline 3\ 6\ 1\ 2 \end{array}$$

(c) 7,680 − 3,842 = <u>3,838</u>

$$\begin{array}{r} \overset{6}{\cancel{7}}\ \overset{16}{\cancel{6}}\ \overset{7}{\cancel{8}}\ \overset{10}{\cancel{0}} \\ -\ 3\ 8\ 4\ 2 \\ \hline 3\ 8\ 3\ 8 \end{array}$$

2. (a) 8,045 − 4,898 = <u>3,147</u>

$$\begin{array}{r} \overset{7}{\cancel{8}}\ \overset{9}{\cancel{\overset{10}{\cancel{0}}}}\ \overset{13}{\cancel{4}}\ \overset{15}{\cancel{5}} \\ -\ 4\ 8\ 9\ 8 \\ \hline 3\ 1\ 4\ 7 \end{array}$$

(b) 9,000 − 5,187 = <u>3,813</u>

$$\begin{array}{r} \overset{8}{\cancel{9}}\ \overset{9}{\cancel{\overset{10}{\cancel{0}}}}\ \overset{9}{\cancel{\overset{10}{\cancel{0}}}}\ \overset{10}{\cancel{0}} \\ -\ 5\ 1\ 8\ 7 \\ \hline 3\ 8\ 1\ 3 \end{array}$$

3. Greatest 4-digit even number: 7,520
Least 4-digit odd number: 2,057
Difference = 7,520 − 2,057 = 5,463

4. May did not rename 3,000 before subtracting 1,845.
May should work out to find the missing digits as follows:

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

Exercise 2C Other Addition and Subtraction Strategies (1)

1. (a) 41 + 3 = <u>44</u>
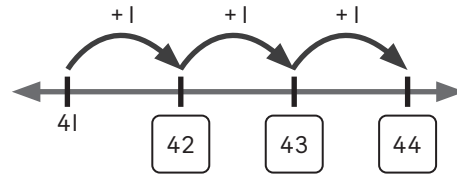
41 + 30 = <u>71</u>
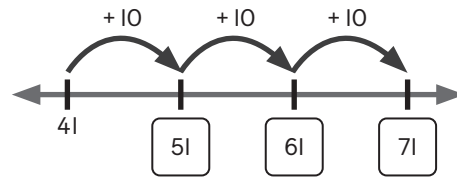
41 + 300 = <u>341</u>
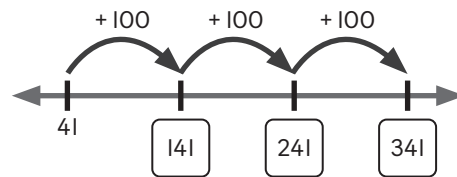
(b) 57; 93; 453   **(c)** 210; 228; 408

2. (a) 155 + 3 = <u>158</u>
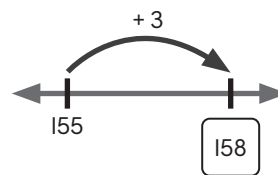
155 + 43 = <u>198</u>
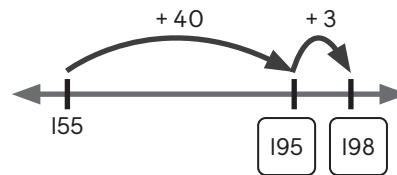
155 + 243 = <u>398</u>
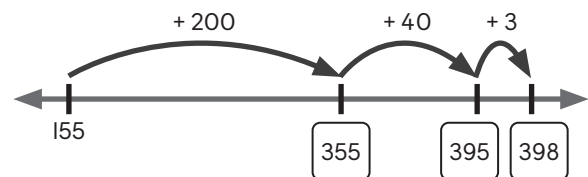
(b) 528; 588; 688   **(c)** 350; 380; 780

I. **(a)**

+ 100

− 3

563   660   663
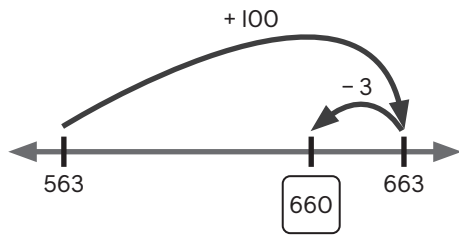
97 and __3__ make 100.

563 + 100 = __663__

__663__ − __3__ = __660__

563 + 97 = __660__

(b)

+ 100

− 4

685   781   785
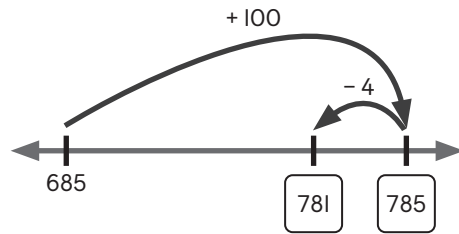
96 and __4__ make 100.

685 + 100 = __785__

__785__ − __4__ = __781__
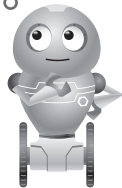
685 + 96 = __781__

2. 385 + 97 = 385 + 100 − 3
     = 485 − 3
     = 482

3. 756 + 195 = 756 + 200 − 5
     = 956 − 5
     = 951

4. Accept all correct answers. Example:

Way I: **Way 2:**

293 + 552 = 552 + 293
      = 552 + 300 − 7
      = 852 − 7
      = 845

```
      1
    2 9 3
  + 5 5 2
  ───────
    8 4 5
```

I. **(a)** 637 − 2 = __635__

− 1   − 1

635   636   637

637 − 20 = __617__

− 10   − 10

617   627   637

637 − 200 = __437__

− 100   − 100
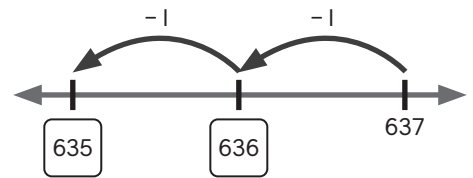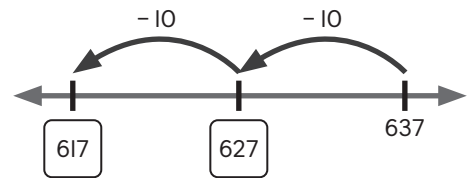
437   537   637
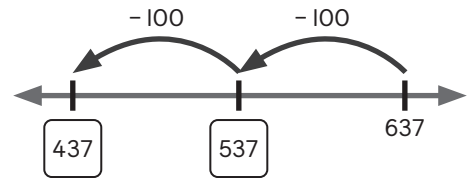
(b) 589; 562; 292   **(c)** 921; 885; 525

2. **(a)** 438 − 4 = __434__

− 4

434   438

438 − 64 = __374__

− 4   − 60

374 378   438
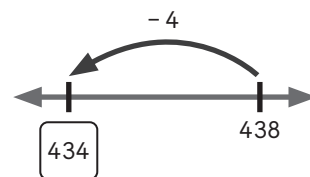
$438 - 164 = \underline{274}$
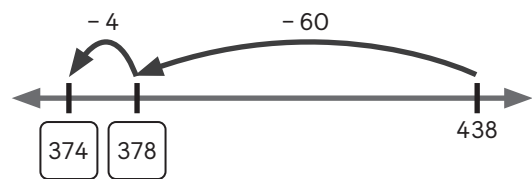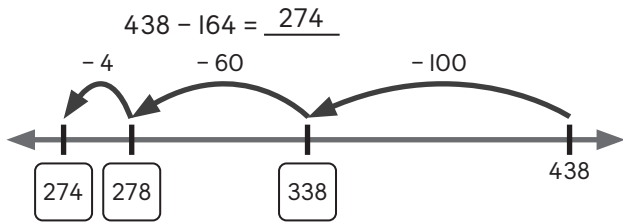
(b) 602; 532; 332 **(c)** 850; 800; 600

Exercise 2C Other Addition and Subtraction Strategies (4)
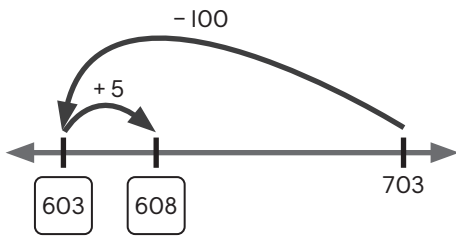
I. **(a)**
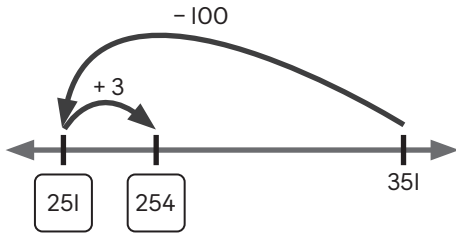
97 and __3__ make 100.

$351 - 100 = \underline{251}$

$\underline{251} + \underline{3} = \underline{254}$
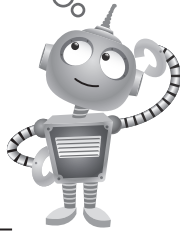
$351 - 97 = \underline{254}$

(b)

95 and __5__ make 100.

$703 - 100 = \underline{603}$

$\underline{603} + \underline{5} = \underline{608}$

$703 - 95 = \underline{608}$

2. $845 - 96 = 845 - 100 + 4$
$= 745 + 4$
$= 749$

3. $700 - 292 = 700 - 300 + 8$
$= 400 + 8$
$= 408$

4. Accept all correct answers. Example:

Way I:

$814 - 198 = 814 - 200 + 2$
$= 614 + 2$
$= 616$

Way 2:

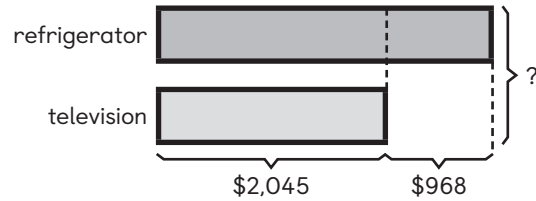**Exercise 2D Word Problems**

I.
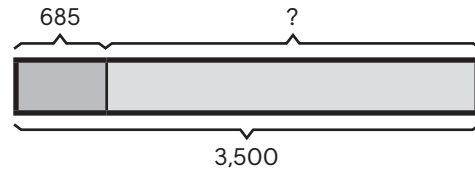
3,500

$3,500 - 685 = 2,815$
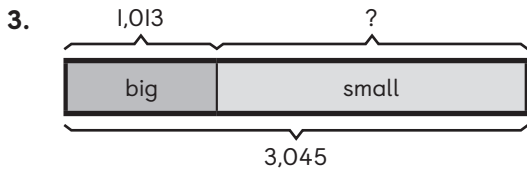There were 2,815 passengers left on the ship after Port A.
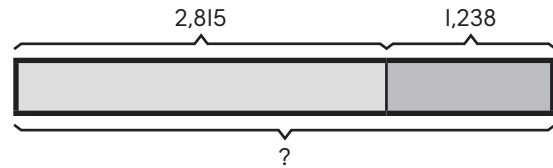
$2,815 + 1,238 = 4,053$
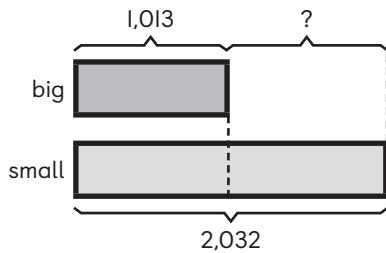There were __4,053__ passengers on the ship in the end.
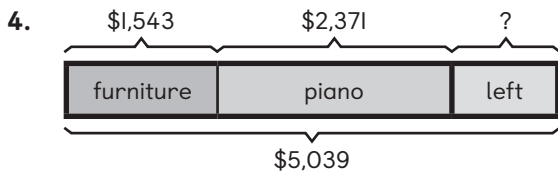
2.

$2,045 + 968 = 3,013$
The cost of the refrigerator is $3,013.

$3,013 + 2,045 = 5,058$
The total cost of the refrigerator and the television is $__5,058__.

3.

1,013 | ?

big | small

3,045

3,045 − 1,013 = 2,032
There were 2,032 small paper cranes.

1,013 | ?

big

small

2,032

2,032 − 1,013 = 1,019
There were __1,019__ more small paper cranes
than big paper cranes.

4.

$1,543 | $2,371 | ?

furniture | piano | left

$5,039

1,543 + 2,371 = 3,914
Ms. Chen spent $3,914.

5,039 − 3,914 = 1,125
Ms. Chen had $__1,125__ left.

5.

1,654

first number

second number

3,085

?
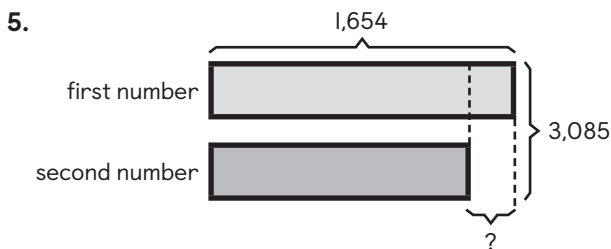
3,085 − 1,654 = 1,431
The other number is 1,431.

1,654 − 1,431 = 223
The difference between the two numbers
is __223__.

6.

adults
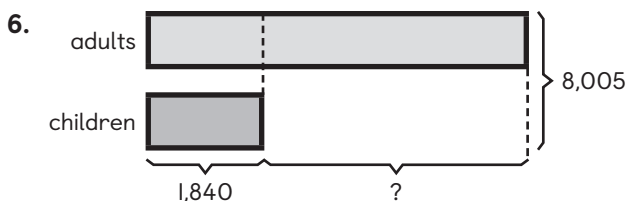
children

8,005

1,840 | ?

8,005 − 1,840 = 6,165
There are 6,165 adults.

6,165 − 1,840 = 4,325
There are __4,325__ more adults than children.

Chapter Practice

I. C

2. D

3. 998

4. 5,842

5. 3,126

6. **(a)** 2,743 + 1,908 = 4,651

$$
\begin{array}{r}
\overset{1}{2}\ \overset{\ }{7}\ \overset{1}{4}\ 3 \\
+\ 1\ 9\ 0\ 8 \\
\hline
4\ 6\ 5\ 1
\end{array}
$$

(b) 4,145 + 2,857 = 7,002

$$
\begin{array}{r}
\overset{1}{4}\ \overset{1}{1}\ \overset{1}{4}\ 5 \\
+\ 2\ 8\ 5\ 7 \\
\hline
7\ 0\ 0\ 2
\end{array}
$$

7. **(a)** 6,720 − 1,348 = 5,372

$$
\begin{array}{r}
6\ \cancel{7}\ \cancel{2}\ \cancel{0} \\
-\ 1\ 3\ 4\ 8 \\
\hline
5\ 3\ 7\ 2
\end{array}
$$

(b) 8,503 − 4,719 = 3,784

$$
\begin{array}{r}
\cancel{8}\ \cancel{5}\ \cancel{0}\ \cancel{3} \\
-\ 4\ 7\ 1\ 9 \\
\hline
3\ 7\ 8\ 4
\end{array}
$$

8. 6,541 − 3,784 = 2,757

$$
\begin{array}{r}
\cancel{6}\ \cancel{5}\ \cancel{4}\ \cancel{1} \\
-\ 3\ 7\ 8\ 4 \\
\hline
2\ 7\ 5\ 7
\end{array}
$$

2,757 + 2,649 = 5,406

$$
\begin{array}{r}
\overset{1}{2}\ \overset{1}{7}\ \overset{1}{5}\ 7 \\
+\ 2\ 6\ 4\ 9 \\
\hline
5\ 4\ 0\ 6
\end{array}
$$

9. 1,035 − 935 = 100
The value of c is 100.
1,095 − 1,035 = 60
The value of d is 60.
1,098 − 1,095 = 3
The value of e is 3.
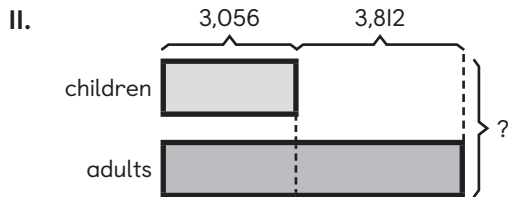100 + 60 + 3 = 163
The sum of c, d, and e is 163.

10. Accept all correct answers. Example:

Way 1:

700 is 2 more than 698.
900 − 698 = 900 − 700 + 2
= 200 + 2
= 202

Way 2:

$$\begin{array}{r} \overset{8}{\cancel{9}}\overset{\overset{9}{10}}{\cancel{0}}\overset{10}{\cancel{0}} \\ -\ 6\ 9\ 8 \\ \hline 2\ 0\ 2 \end{array}$$

11.

3,056 + 3,812 = 6,868
There are 6,868 adults at the concert.

3,056 + 6,868 = 9,924
There are __9,924__ people in all at the concert.
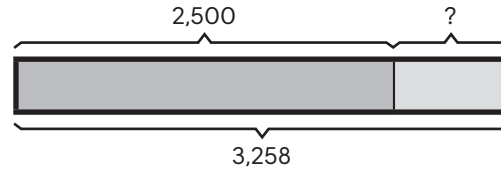
12.
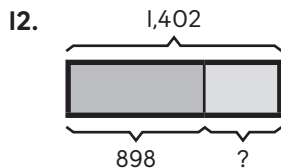
1,402 − 898 = 504
After using up some eggs, there were 504 eggs left.
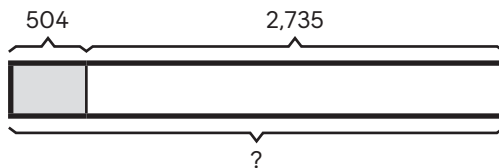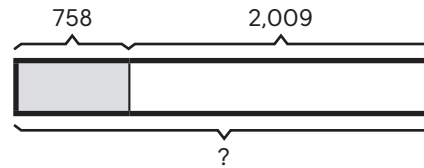

504 + 2,735 = 3,239
There were __3,239__ eggs in the end.

13. Kiran has to subtract 2,500 books from 3,258 books first since we are finding the number of books at first.
He should not add the 2,500 books since those books were bought later.

3,258 − 2,500 = 758
There were 758 books left before 2,500 books were bought.

758 + 2,009 = 2,767
There were 2,767 books at first.

14.

$$\begin{array}{r} \overset{5}{\cancel{6}}\ \overset{10}{\cancel{7}}\ \overset{12}{\cancel{2}}\ 7 \\ -\ 1\ 4\ 7\ 5 \\ \hline 4\ 6\ 5\ 2 \end{array}$$

A = __1__; B = __2__; C = __4__; D = __5__

Chapter 3 MULTIPLICATION AND DIVISION

Exercise 3A Multiplication (1)

1. **(a)** 4 × 2 = __8__

There are __8__ bananas altogether.

(b) 4 × __3__ = __12__

There are __12__ pears altogether.

(c) 3 × __6__ = __18__

There are __18__ cookies altogether.

(d) 2 × __9__ = __18__

There are __18__ birds in all.

2. __6__ × __5__ = __30__

There are __30__ keys in all.

Exercise 3A   Multiplication (2)

1. **(a)** 3 × __6__ = __18__

    6 × __3__ = __18__

    (b) 3 × __8__ = __24__

    8 × __3__ = __24__

    3 × __8__ = 8 × __3__

    (c) __5__ × 6 = __30__

    __6__ × 5 = __30__

    __5__ × 6 = __6__ × 5

2. **(a)** __4__ × __5__ = __20__

    __5__ × __4__ = __20__

    4 × __5__ = 5 × __4__

    (b) __5__ × __7__ = __35__

    __7__ × __5__ = __35__

    __7__ × 5 = __5__ × 7

3. __4__ × __7__ = __28__

    There are __28__ mangoes in all.

4. __6__ × __4__ = __24__

    There are __24__ apples altogether.

5. __3__ × __5__ = __15__

    There are __15__ baseballs in all.

6. **(a)**
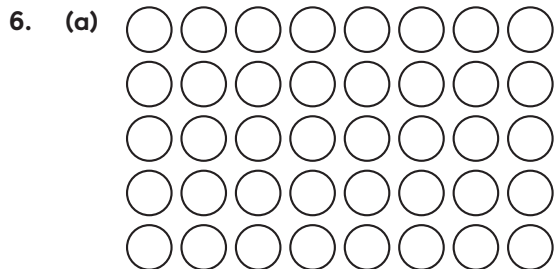
    __5__ × __8__ = __40__

    There are __40__ marbles altogether.

    (b) __8__ × __5__ = __40__

Exercise 3B   Multiply by 2 (1)

1. 6 × 2 = __12__

    There are __12__ shoes in 6 pairs.

2. __5__ × __2__ = __10__

    There are __10__ pens in all.

3. __2__ × __8__ = __16__

    There are __16__ leaves altogether.

4. **(a)** __2__ × __9__ = __18__

    (b) __4__ × __2__ = __8__

5.

    __3__ × __2__ = __6__

Exercise 3B   Multiply by 2 (2)

1. 2 × 4 = __8__

2. __2__ × __5__ = __10__

3. **(a)**

    __2__ × __7__ = __14__

    (b)

    __2__ × __8__ = __16__

    (c)

    __2__ × __9__ = __18__

    (d) Each answer is 2 more than the one
    before.
    Double 7 = 14, Double 8 = 16, and
    Double 9 = 18
    14 is 2 more than 16 and 16 is 2 more
    than 18.

4. Double 3 = __6__   Double 6 = __12__

    Yes, double 6 = 2 × 6 = 2 × 2 × 3 = 2 × double 3.

Exercise 3C   Multiply by 5

1. $3 \times 5 = \underline{15}$

There are __15__ cookies in all.

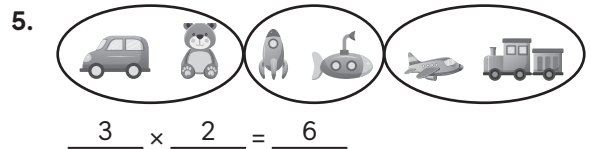2. $\underline{6} \times \underline{5} = \underline{30}$

There are __30__ fingers altogether.

3. $\underline{7} \times \underline{5} = \underline{35}$

There are __35__ marbles altogether.
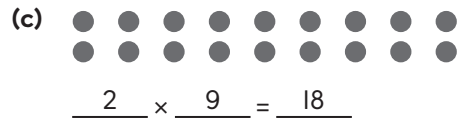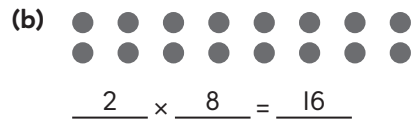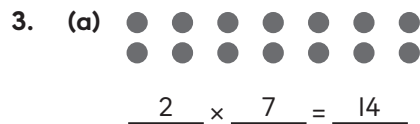
4. $\underline{8} \times \underline{5} = \underline{40}$

5.
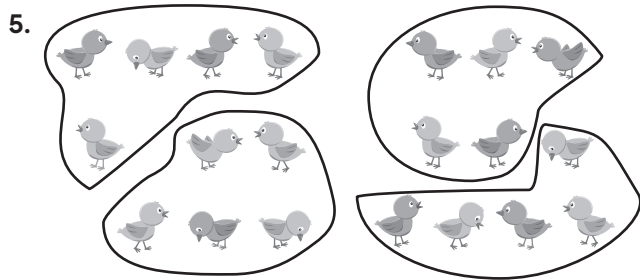
$\underline{4} \times \underline{5} = \underline{20}$

6.   **(a)** 15   **(b)** 25
     (c) 0   **(d)** 45
     (e) 50   **(f)** 35
     (g) 5   **(h)** 40

Exercise 3D   Multiply by 10

1. $3 \times 10 = \underline{30}$

There are __30__ beads in all.

2. $\underline{5} \times \underline{10} = \underline{50}$

There are __50__ eggs in all.

3. $\underline{2} \times \underline{10} = \underline{20}$

There are __20__ birds altogether.

4. $\underline{6} \times \underline{10} = \underline{60}$

5.
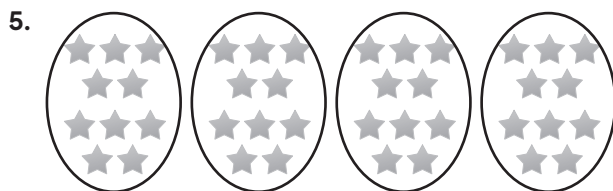
$\underline{4} \times \underline{10} = \underline{40}$

6.   **(a)** 50   **(b)** 0
     (c) 10   **(d)** 100
     (e) 90   **(f)** 80
     (g) 20   **(h)** 60

Exercise 3E   Multiply by 3 (I)

1. $\underline{3} \times 3 = \underline{9}$

There are __9__ balloons in all.

2. $\underline{5} \times \underline{3} = \underline{15}$

There are __15__ peaches altogether.

3. $\underline{3} \times \underline{6} = \underline{18}$

$\underline{6} \times \underline{3} = \underline{18}$

There are __18__ mushrooms altogether.

4. $\underline{7} \times \underline{3} = \underline{21}$

$\underline{3} \times \underline{7} = \underline{21}$

5.   **(a)**

$\underline{9} \times \underline{3} = \underline{27}$

(b)

$\underline{3} \times \underline{9} = \underline{27}$

(c) $\underline{9} \times \underline{3} = \underline{3} \times \underline{9}$

6.

Exercise 3E   Multiply by 3 (2)

1. (a) $2 \times 3 = \underline{6}$ $4 \times 3 = \underline{6} + \underline{6}$

                                    $= \underline{12}$

    (b) $5 \times 3 = \underline{15}$ $7 \times 3 = \underline{15} + \underline{6}$

                                    $= \underline{21}$

    (c) $7 \times 3 = \underline{21}$ $6 \times 3 = \underline{21} - \underline{3}$

                                    $= \underline{18}$

2. $9 \times 3 = \underline{30} - \underline{3}$

        $= \underline{27}$

3. (a) $3 \times 7 = \underline{21}$

          $7 \times \underline{3} = \underline{21}$

    (b) $5 \times 3 = \underline{15}$

          $\underline{3} \times 5 = 15$

4. The next number in the pattern is 3 dice
    showing 4 each, which is $3 \times 4 = 12$.

Exercise 3F   Multiply by 4 (1)

1. $\underline{4} \times \underline{4} = \underline{16}$

    There are $\underline{16}$ flowers in all.

2. $\underline{4} \times \underline{5} = \underline{20}$
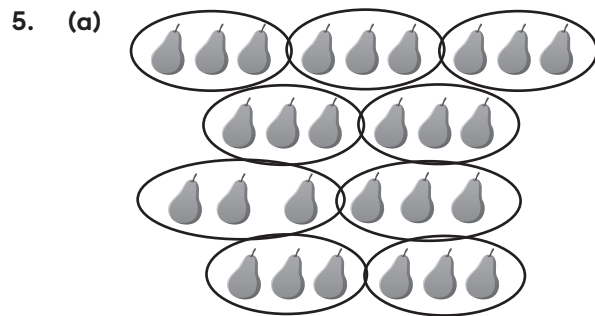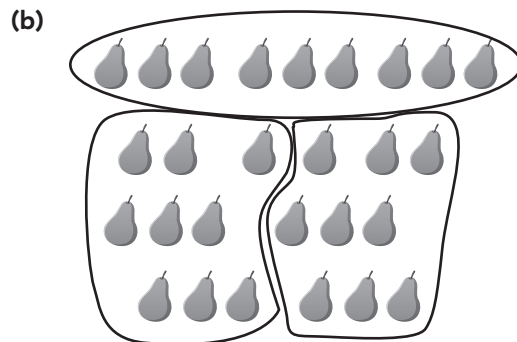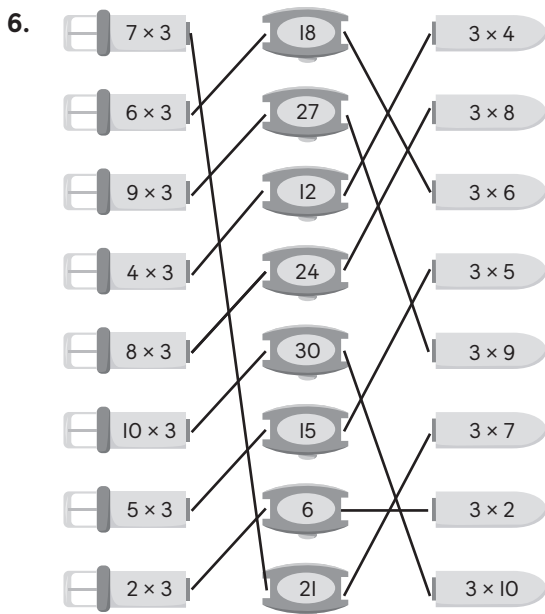
    $\underline{5} \times \underline{4} = \underline{20}$

    There are $\underline{20}$ marbles altogether.

3. $\underline{4} \times \underline{7} = \underline{28}$

    $\underline{7} \times \underline{4} = \underline{28}$

4.
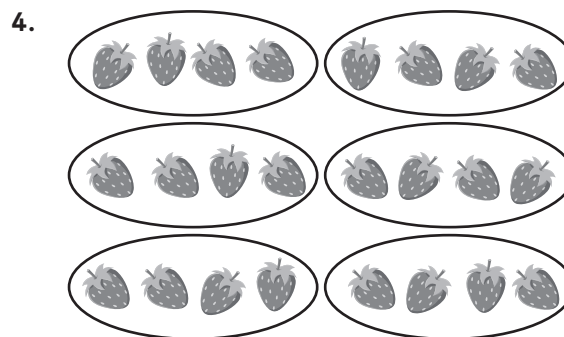
    $\underline{6} \times \underline{4} = \underline{24}$

5. (a) 0   (b) 8
    (c) 4   (d) 25
    (e) 12   (f) 32
    (g) 36   (h) 40

Exercise 3F   Multiply by 4 (2)

1. (a) $2 \times 4 = \underline{8}$ $3 \times 4 = \underline{8} + \underline{4}$

                                    $= \underline{12}$

    (b) $5 \times 4 = \underline{20}$ $8 \times 4 = \underline{20} + \underline{12}$

                                    $= \underline{32}$

    (c) $8 \times 4 = \underline{32}$ $6 \times 4 = \underline{32} - \underline{8}$

                                    $= \underline{24}$

2. $3 \times 4 = \underline{12}$

    $6 \times 4 = \underline{12} + \underline{12}$

        $= \underline{24}$

3. $4 \times 5 = \underline{20}$

    $4 \times 7 = \underline{20} + \underline{8}$

        $= \underline{28}$

    $4 \times 3 = \underline{20} - \underline{8}$

        $= \underline{12}$

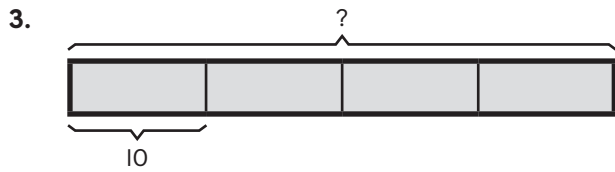**Exercise 3G   Word Problems**

1. $3 \times 4 = 12$

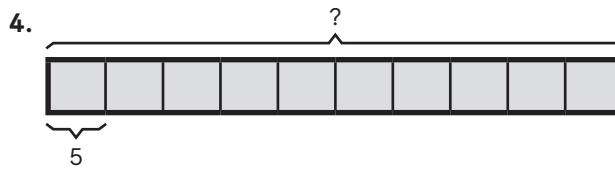There are __12__ pancakes in all.

2.
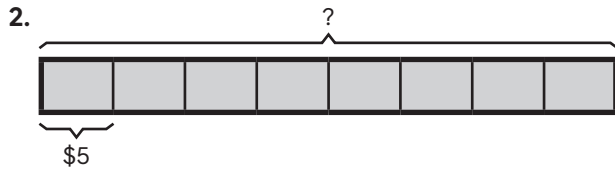
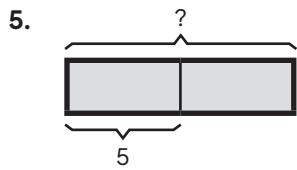$8 \times 5 = 40$

Peggy has $ __40__ altogether.

3.

$4 \times 10 = 40$

Ms. Yoland bought __40__ erasers.
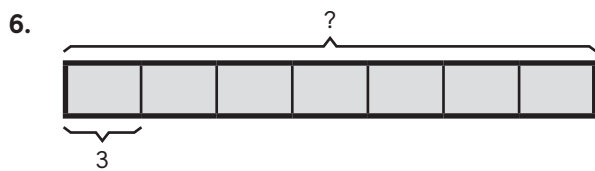
4.

$10 \times 5 = 50$

Ada has __50__ storybooks altogether.

5.

$2 \times 5 = 10$

They ate __10__ strawberries altogether.

6.

$7 \times 3 = 21$

Javier eats __21__ servings of fruit in a week.

Exercise 3H   Division (1)

1. $16 \div 2 =$ __8__

There are __8__ apples in each group.

2. $24 \div 3 =$ __8__

Each child gets __8__ marbles.

3. $10 \div$ __5__ $=$ __2__

There are __2__ tomatoes in each group.

4.   There are 18 caps in __3__ rows.

$18 \div$ __3__ $=$ __6__

Each row has __6__ caps.

5.

__20__ ÷ __4__ $=$ __5__

Each plate has __5__ sandwiches.

Exercise 3H   Division (2)

1. $28 \div 4 =$ __7__

There are __7__ groups.

2. $15 \div 5 =$ __3__

There are __3__ groups.

3.
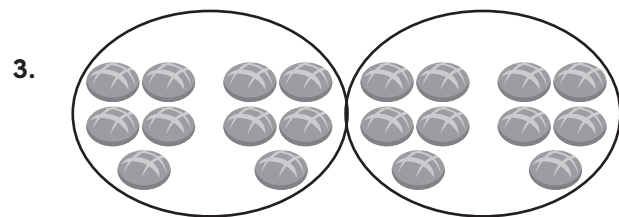
__20__ $\div 10 =$ __2__

There are __2__ groups.

4.   __21__ ÷ __7__ $=$ __3__

Mr. Coles puts strawberries on __3__ cakes.

5.   __60__ ÷ __10__ $=$ __6__

Jamie needs __6__ envelopes.

Exercise 3I   Divide by 2

1. 10 ÷ 2 = __5__

   There are __5__ figs on each plate.

2. __6__ groups of 2   2 groups of __6__

   __6__ × 2 = __12__   2 × __6__ = __12__

   __12__ ÷ 2 = __6__   __12__ ÷ 2 = __6__

3. 18 ÷ 2 = __9__

   __9__ × 2 = 18

4. (a) • 8 ÷ 2 = [4]   (b) • 20 ÷ 2 = [10]

      [4] × 2 = 8   [10] × 2 = 20

5. __6__ ÷ __2__ = __3__

   There are __3__ pairs of gloves.

Exercise 3J   Divide by 5

1. 10 ÷ 5 = __2__

   There are __2__ toys in each box.

2. __6__ groups of 5   5 groups of __6__

   __6__ × 5 = __30__   5 × __6__ = __30__

   __30__ ÷ 5 = __6__   __30__ ÷ 5 = __6__

3. (a)

   5 × __3__ = __15__ ,

   __15__ ÷ __5__ = __3__

   There are __3__ squares in each group.

(b)

   __3__ × 5 = __15__ ,

   __15__ ÷ __5__ = __3__

   There are __3__ groups.

Exercise 3K   Divide by 10

1. 40 ÷ 10 = __4__

   There are __4__ crayons in each box.

2. __100__ ÷ __10__ = __10__

   Each child gets $__10__.

3. __5__ groups of 10   10 groups of __5__

   __5__ × 10 = __50__   10 × __5__ = __50__

   __50__ ÷ 10 = __5__   __50__ ÷ 10 = __5__

4. (a) __20__ ÷ __10__ = __2__

      Each child gets __2__ paper clips.

   (b) __20__ ÷ __2__ = __10__

      There are __10__ groups.

Exercise 3L   Divide by 3

1. 30 ÷ 3 = __10__

   There are __10__ cookies in each pack.

2. __7__ groups of 3   3 groups of __7__

   __7__ × 3 = __21__   3 × __7__ = __21__

   __21__ ÷ 3 = __7__   __21__ ÷ 3 = __7__

3. 3 × __6__ = __18__

   __18__ ÷ 3 = __6__

4. $4 \times 3 =$ <u>12</u> $8 \times 3 =$ <u>24</u>

<u>12</u> $\div 3 =$ <u>4</u>   <u>24</u> $\div 3 =$ <u>8</u>

$24 \div 3 = 8$ is double $12 \div 3 = 4$.

5.
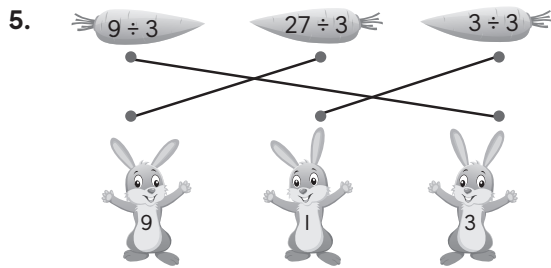
Exercise 3M   Divide by 4

1. $8 \div 4 =$ <u>2</u>

There are <u>2</u> croissants on each plate.

2. <u>24</u> $\div 4 =$ <u>6</u>

There are <u>6</u> strawberries on each plate.

3. <u>4</u> groups of 5   5 groups of <u>4</u>

<u>4</u> $\times 5 =$ <u>20</u> $5 \times$ <u>4</u> $=$ <u>20</u>

<u>20</u> $\div 5 =$ <u>4</u>   <u>20</u> $\div 4 =$ <u>5</u>

4.

| $32 \div 4 =$ | 8 | ● ━ ● | 8 | $\times 4 = 32$ |

5. $3 \times 4 = 12$
$12 + 3 = 15$
Mr. Jones has 15 apples.
$15 \div 3 = 5$
Mr. Jones should give each child <u>5</u> apples.
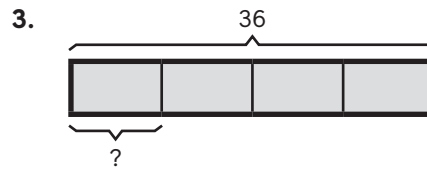
Exercise 3N   Word Problems (1)

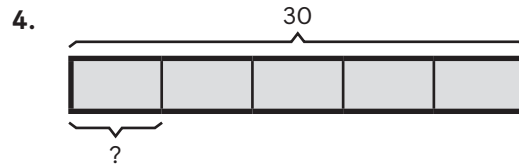**1.** $20 \div 10 = 2$
Each child gets <u>2</u> balloons.

2.

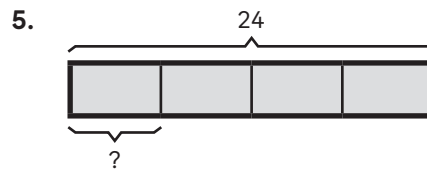18
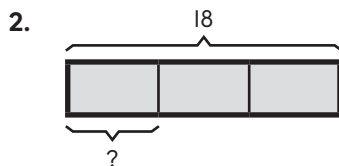
$18 \div 3 = 6$

There are <u>6</u> flowers in each vase.

3.

36

$36 \div 4 = 9$

There are <u>9</u> chairs in each row.
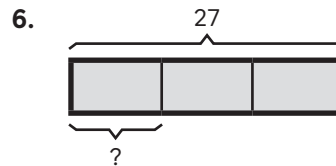
4.

30

$30 \div 5 = 6$

There are <u>6</u> bread buns in each box.

5.

24

$24 \div 4 = 6$

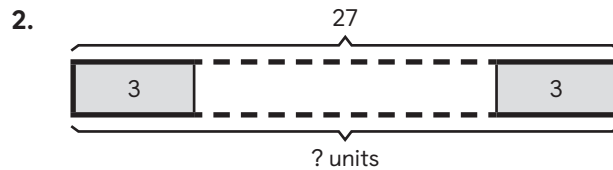There are <u>6</u> glasses of apple juice on each tray.

6.

27

$27 \div 3 = 9$

There were <u>9</u> fish in each pail.
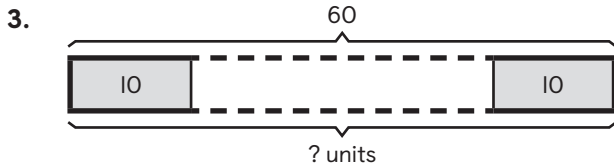
Exercise 3N   Word Problems (2)
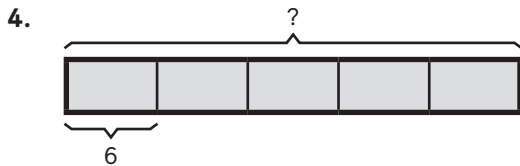
1. $40 \div 5 = 8$

Lynn has <u>8</u> bags of oranges.

2.

27

? units

$27 \div 3 = 9$

Tyrone had <u>9</u> smaller pieces of ribbon.

Additional Practice Grade 3A

3.

$60 \div 10 = 6$

There are ___6___ rows of tables.

4.

$5 \times 6 = 30$

There are ___30___ legs in all.

5.
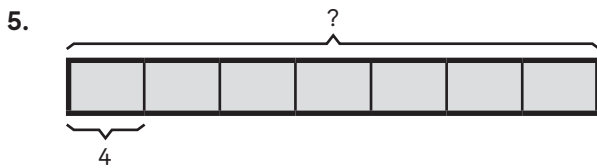
$7 \times 4 = 28$

7 violins have ___28___ strings.

6.
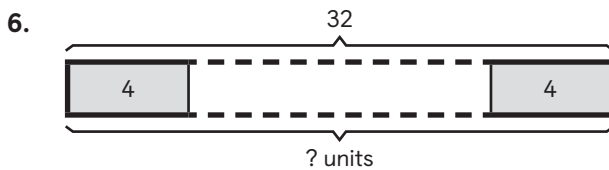
$32 \div 4 = 8$

Ariel uses ___8___ pieces of paper.

Chapter Practice

I. B

2. C

3. C

4. D

5. 32

6.

$7 \times 10 = 70$
Keith has $___70___.

7.
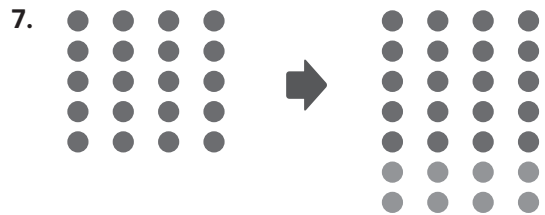
$5 \times 4 = 20$ $7 \times 4 = 20 + 8$
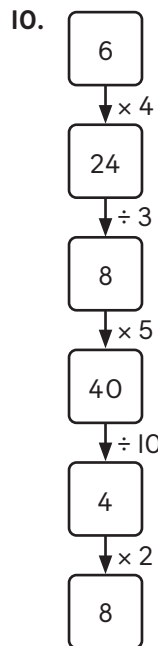 $= 28$

8.
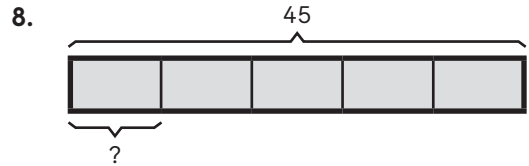
$45 \div 5 = 9$

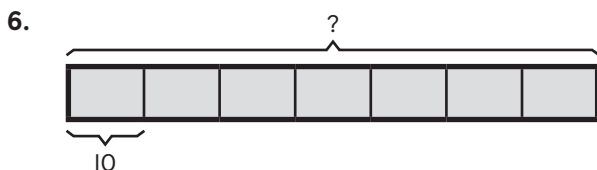Each tourist buys ___9___ bottles of strawberry jam.

9. $9 \times 3 = 27$
$29 - 27 = 2$
$2 + 1 = 3$
Caleb needs 1 more pencil to pack another box of 3 pencils so that there are no pencils left over.

I0.

Chapter 4   MULTIPLICATION AND DIVISION OF 6, 7, 8, AND 9

Exercise 4A   Multiply and Divide by 6 (I)

1. $3 \times 6 = \underline{18}$

   $6 \times 3 = \underline{18}$

2. $6 \times \underline{4} = \underline{24}$

   $\underline{4} \times 6 = \underline{24}$

3. $5 \times 6 = \underline{30}$

   $3 \times 6 = \underline{18}$

   $8 \times 6 = \underline{30} + \underline{18}$

   $ = \underline{48}$

4. $3 \times 6 = \underline{18}$

   $6 \times 6 = \underline{18} + \underline{18}$

   $ = \underline{36}$

5.

6. **(a)** 8×6 is 6 less than $\underline{9} \times \underline{6}$.

   (b) $\underline{6} \times \underline{8}$ is 6 less than 6×9.

   (c) $\underline{6} \times \underline{6}$ is 6 more than 6×5.

Exercise 4A   Multiply and Divide by 6 (2)

1. $24 \div 6 = \underline{4}$

   $\underline{4} \times 6 = 24$

   Each boy gets $\underline{4}$ balloons.
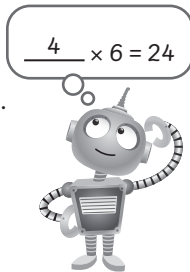
2. $\underline{2}$ groups of 6   6 groups of $\underline{2}$

   $\underline{2} \times 6 = 12$ $6 \times \underline{2} = 12$

   $12 \div 6 = \underline{2}$ $12 \div 6 = \underline{2}$

3. $\underline{8} \times 6 = 48$
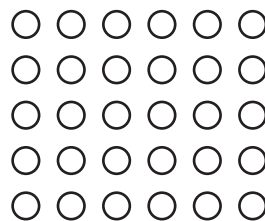
   $48 \div 6 = \underline{8}$

   $6 \times \underline{8} = 48$

   $48 \div \underline{8} = 6$

4.

5. Accept all correct explanations. Example: I find the number that gives me 30 when multiplied by 6.

   $\underline{} \times 6 = 30$

   There are 5 rows. So, $5 \times 6 = 30$.

   So, $30 \div \underline{5} = 6$.

Exercise 4A   Multiply and Divide by 6 (3)

1. $7 \times 6 = 42$

   Lindsey paid \$$\underline{42}$ for the books.

2. $60 \div 6 = 10$

   May uses $\underline{10}$ boxes.

3. $9 \times 6 = 54$

   9 ants have $\underline{54}$ legs.

4. $8 \times 6 = 48$

   There are $\underline{48}$ roses in 8 such bouquets.

5. $18 \div 6 = 3$

Each child gets __3__ muffins.

6. $24 \div 6 = 4$

Mr. Ford has __4__ children.

Exercise 4B Multiply and Divide by 7 (1)

1. $3 \times 7 = \underline{21}$

$7 \times 3 = \underline{21}$

2. $2 \times \underline{7} = \underline{14}$

$\underline{7} \times 2 = \underline{14}$

3. $4 \times 7 = \underline{28}$

$1 \times 7 = \underline{7}$

$5 \times 7 = \underline{28} + \underline{7}$

$= \underline{35}$

4. $10 \times 7 = \underline{70}$

$2 \times 7 = \underline{14}$

$8 \times 7 = \underline{70} - \underline{14}$

$= \underline{56}$

5. **(a)** 63 **(b)** 35

(c) 0 **(d)** 42

(e) 49 **(f)** 70

6.

I know that $4 \times 7 = 28$.
8×7 is double 4×7.
So, $8 \times 7 = 28 + 28$
$= 56$.

Exercise 4B Multiply and Divide by 7 (2)

1. $14 \div 7 = \underline{2}$

$\underline{2} \times 7 = 14$

Each child gets __2__ stickers.

2. 7 groups of __4__   __4__ groups of 7

$7 \times \underline{4} = 28$ $\underline{4} \times 7 = 28$

$28 \div 7 = \underline{4}$ $28 \div 7 = \underline{4}$

3. $\underline{8} \times 7 = 56$

$56 \div 7 = \underline{8}$

$7 \times \underline{8} = 56$

$56 \div 8 = \underline{7}$

4. **(a)**

$49 \div 7 = \boxed{7}$

$\boxed{7} \times 7 = 49$

(b)

$0 \div 7 = \boxed{0}$

$\boxed{0} \times 7 = 0$

5.

| $35 \div 7$ | $7 \div 7$ | $56 \div 7$ | $70 \div 7$ | $49 \div 7$ |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

| $28 \div 7$ | $14 \div 7$ | $21 \div 7$ | $63 \div 7$ | $42 \div 7$ |

Exercise 4B Multiply and Divide by 7 (3)

1. $9 \times 7 = 63$

There are __63__ marbles in 9 boxes.

2. $21 \div 7 = 3$

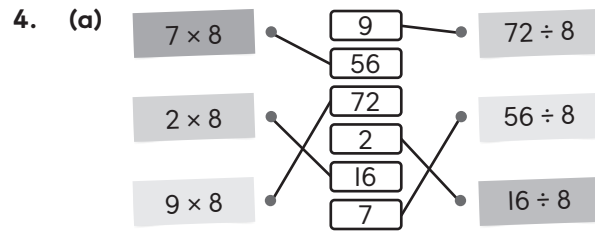Jane drew __3__ pictures each day.

3. $7 \times 5 = 35$

Kelly uses __35__ buttons.

4. $49 \div 7 = 7$

Ryan bought __7__ books.

5. $70 \div 10 = 7$

Ms. Purcell makes __7__ such bracelets.

6. $5 \times 7 = 35$

There are __35__ days in 5 weeks.

Exercise 4C Multiply and Divide by 8 (1)

1. $2 \times 8 = $ __16__

$8 \times 2 = $ __16__

2. $4 \times 8 = $ __32__

$8 \times 4 = $ __32__

3. $6 \times 8 = $ __48__

$2 \times 8 = $ __16__

$8 \times 8 = $ __64__

4. $3 \times 8 = $ __24__

$6 \times 8 = $ __48__

$9 \times 8 = $ __72__

5. $10 \times 8 = $ __80__

$3 \times 8 = $ __24__

$7 \times 8 = $ __56__

6. Yes. 8 has the same value as 2×4. So, any product in the multiplication facts of 8 will be divisible by 4 and can be found in the multiplication facts of 4.
Example: $5 \times 8 = 40$, $40 = 10 \times 4$

Exercise 4C Multiply and Divide by 8 (2)

1. $32 \div 8 = $ __4__

Kylie needs __4__ bags.

2. __3__ groups of 8   8 groups of __3__

__3__ $\times 8 = 24$ $8 \times$ __3__ $= 24$

$24 \div 8 = $ __3__ $24 \div 8 = $ __3__

3. __5__ $\times 8 = $ __40__ $8 \times$ __5__ $= $ __40__

__40__ $\div 8 = $ __5__   __40__ $\div 5 = $ __8__

4. (a)

(b) __6__ $\times$ __8__ $= $ __48__

__8__ $\times$ __6__ $= $ __48__

__48__ $\div$ __8__ $= $ __6__

__48__ $\div$ __6__ $= $ __8__

Exercise 4C Multiply and Divide by 8 (3)

1. $5 \times 8 = 40$

5 spiders have __40__ legs in all.

2. $80 \div 8 = 10$

Josh needs __10__ boxes to pack all the packets of juice.

3. $24 \div 8 = 3$

Each breadstick costs $__3__.

4. $6 \times 8 = 48$

There are __48__ photographs on 6 pages.

5. (a) $7 \times 8 = 56$

Beatrix needs __56__ craft sticks to make 7 octagons.

(b) $72 \div 8 = 9$

Beatrix can make __9__ octagons.

Exercise 4D Multiply and Divide by 9 (1)

1. $3 \times 9 = $ __27__

$9 \times$ __3__ $= $ __27__

2. $5 \times 9 = $ __45__

__9__ $\times 5 = $ __45__

3. $2 \times 9 = $ __18__

$4 \times 9 = $ __36__

4. $10 \times 9 = $ __90__

$2 \times 9 = $ __18__

$8 \times 9 = $ __72__

5. $9 \times 6 = \underline{54}$

$6 \times 9 = \underline{54}$

$9 \times 7 = \underline{63}$

$7 \times 9 = \underline{63}$

Exercise 4D Multiply and Divide by 9 (2)
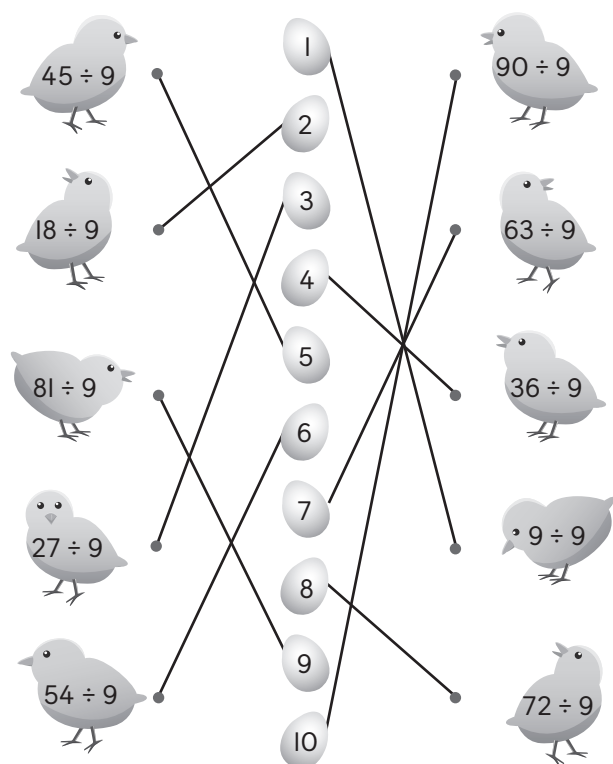
I. $45 \div 9 = \underline{5}$

$\underline{5} \times 9 = 45$

There are $\underline{5}$ children.

2. $\underline{3}$ groups of 9   9 groups of $\underline{3}$

$\underline{3} \times 9 = 27$ $9 \times \underline{3} = 27$

$27 \div 9 = \underline{3}$ $27 \div \underline{3} = 9$

3. $\underline{6} \times 9 = \underline{54}$

$9 \times \underline{6} = \underline{54}$

$\underline{54} \div 9 = \underline{6}$

$\underline{54} \div \underline{6} = 9$

4.

Exercise 4D Multiply and Divide by 9 (3)

I. $7 \times 9 = 63$

Mr. Tyler needs $\underline{63}$ stamps altogether.

2. $45 \div 9 = 5$

Ms. Williams makes $\underline{5}$ dresses.

3. $4 \times 9 = 36$

Jolin has $\underline{36}$ mangoes.

4. $90 \div 9 = 10$

Each child donates $\$\underline{10}$.

5. **(a)** $27 \div 9 = 3$

Denzel uses $\underline{3}$ bags.

(b) $3 \times 6 = 18$

There are $\underline{18}$ apples altogether.
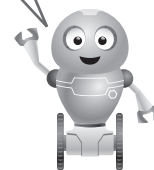
Exercise 4E Multiply by Tens

I. $4 \times 20 = \underline{8} \times 10$

$= \underline{80}$

$4 \times 2 = \underline{8}$

2. $7 \times 30 = \underline{21} \times 10$
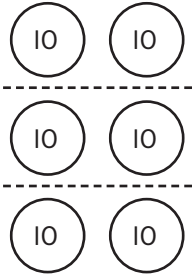
$= \underline{210}$

$30 \times 7 = \underline{210}$
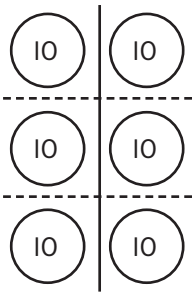
$7 \times 3 = \underline{21}$

3. **(a)** $5 \times 40 = \underline{20} \times 10$

$= \underline{200}$

(b) $4 \times 50 = \underline{20} \times 10$

$= \underline{200}$

(c) $6 \times 50 = \underline{300}$

(d) $\underline{20} \times 6 = 120$

(e) $80 \times \underline{4} = 320$

4. $20 = \boxed{10}\ \boxed{10}$

3×20 can be shown by:

$\boxed{10}\quad\boxed{10}$
- - - - - - - - - -
$\boxed{10}\quad\boxed{10}$
- - - - - - - - - -
$\boxed{10}\quad\boxed{10}$

$3 \times 2 \times 10$ can be shown by:

$\boxed{10}\ |\ \boxed{10}$
- - - - - - - - - -
$\boxed{10}\ |\ \boxed{10}$
- - - - - - - - - -
$\boxed{10}\ |\ \boxed{10}$

Yes. $20 \times 3 = 2 \times 10 \times 3 = 6 \times 10$.

Exercise 4F   Multiply a 2-Digit Number by a 1-Digit Number

1. $14 \times 3 = \underline{\quad 10 \quad} \times 3 + \underline{\quad 4 \quad} \times 3$

$= \underline{\quad 30 \quad} + \underline{\quad 12 \quad}$

$= \underline{\quad 42 \quad}$

2. **(a)** $18 \times 4 = \underline{\quad 72 \quad}$

$$\begin{array}{r} 1\ 8 \\ \times\quad 4 \\ \hline 3\ 2 \\ 4\ 0 \\ \hline 7\ 2 \end{array}$$

(b) $24 \times 2 = \underline{\quad 48 \quad}$

$$\begin{array}{r} 2\ 4 \\ \times\quad 2 \\ \hline 8 \\ 4\ 0 \\ \hline 4\ 8 \end{array}$$

(c) $46 \times 8 = \underline{\quad 368 \quad}$

$$\begin{array}{r} 4\ 6 \\ \times\quad 8 \\ \hline 4\ 8 \\ 3\ 2\ 0 \\ \hline 3\ 6\ 8 \end{array}$$

3. **(a)** $22 \times 6 = \underline{\quad 132 \quad}$

$$\begin{array}{r} 2\ 2 \\ \times\quad 6 \\ \hline 1\ 2 \\ 1\ 2\ 0 \\ \hline 1\ 3\ 2 \end{array}$$

(b) $31 \times 4 = \underline{\quad 124 \quad}$

$$\begin{array}{r} 3\ 1 \\ \times\quad 4 \\ \hline 4 \\ 1\ 2\ 0 \\ \hline 1\ 2\ 4 \end{array}$$

(c) $7 \times 36 = \underline{\quad 252 \quad}$

$$\begin{array}{r} 3\ 6 \\ \times\quad 7 \\ \hline 4\ 2 \\ 2\ 1\ 0 \\ \hline 2\ 5\ 2 \end{array}$$

(d) $8 \times 27 = \underline{\quad 216 \quad}$

$$\begin{array}{r} 2\ 7 \\ \times\quad 8 \\ \hline 5\ 6 \\ 1\ 6\ 0 \\ \hline 2\ 1\ 6 \end{array}$$

(e) $43 \times 9 = \underline{\quad 387 \quad}$

$$\begin{array}{r} 4\ 3 \\ \times\quad 9 \\ \hline 2\ 7 \\ 3\ 6\ 0 \\ \hline 3\ 8\ 7 \end{array}$$

(f) $84 \times 5 =$ __420__

$$\begin{array}{r} 8\;4 \\ \times \quad\; 5 \\ \hline 2\;0 \\ 4\;0\;0 \\ \hline 4\;2\;0 \end{array}$$
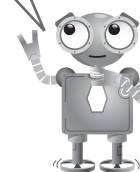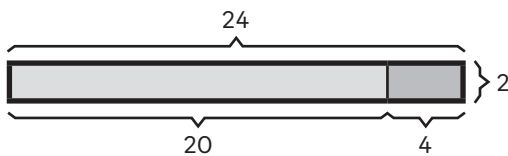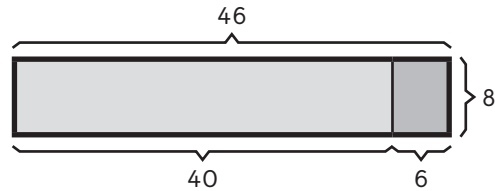
Exercise 4G   Word Problems (1)
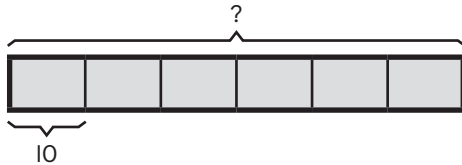
1. **(a)** $12 \times 9 = 108$

   Desiree spent $__108__.
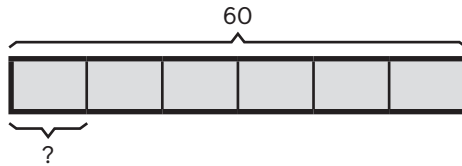
   (b) $120 - 108 = 12$

   Desiree received $__12__ change.

2. **(a)**

   10

   $6 \times 10 = 60$

   Kenny had __60__ baseballs at first.

   (b)

   60

   ?

   $60 \div 6 = 10$

   Each friend got __10__ baseballs.

3.

   150

   (a)

   8   8

   (b) ? units   86
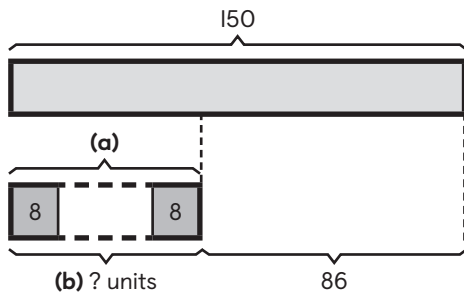
   (a) $150 - 86 = 64$

   Melissa had __64__ stamps left.

   (b) $64 \div 8 = 8$

   Melissa used __8__ pages of the album.

4. **(a)**

   ?

   30
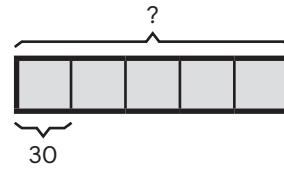
   $5 \times 30 = 150$

   Farmer Smith has __150__ apples.

   (b)

   150   125

   | apples | pears |

   ?
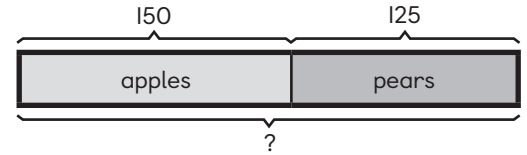
   $150 + 125 = 275$

   Farmer Smith has __275__ pieces of fruit altogether.

Exercise 4G   Word Problems (2)

1. $72 \div 9 = 8$

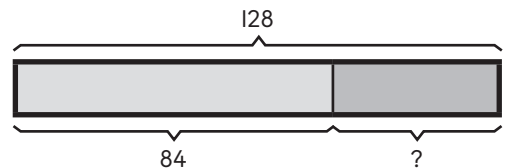   Timmy has __8__ packets of beads.

   ?

   $3
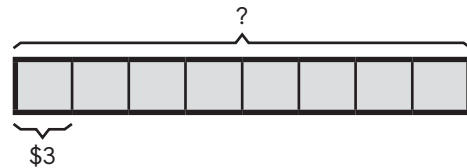
   $8 \times 3 = 24$

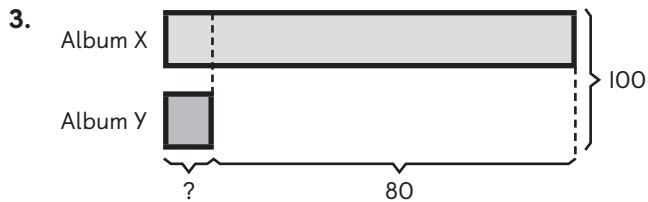   Timmy receives $__24__ from selling all the beads.

2.

   ? wheels

   8   8

   16 toy trucks
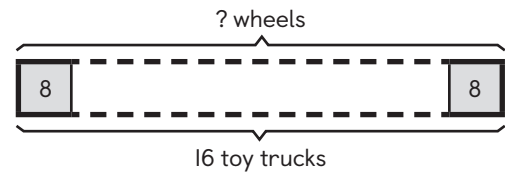
   $16 \times 8 = 128$

   Samantha needs __128__ wheels altogether.

   128

   84   ?

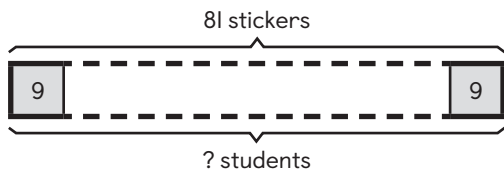 $128 - 84 = 44$

   Samantha needs __44__ more wheels.

3.

Album X
Album Y
? · 80 · 100

100 − 80 = 20
20 ÷ 2 = 10

There are __10__ stickers in Album Y.

4.

? · 75 · 6

75 + 6 = 81

81 stickers
9 · 9
? students
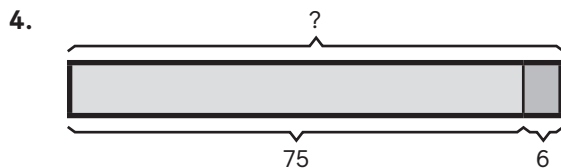
81 ÷ 9 = 9

There were __9__ students.

Chapter Practice

I. A

2. B

3. C

4. 8

5. 224

6. (a)

? · 40 m
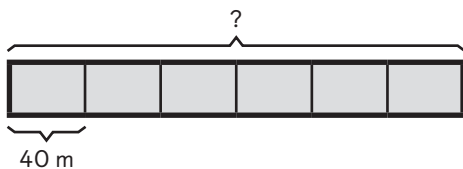
6 × 40 = 240

Mr. Lawrence has __240__ meters of cloth altogether.

(b)

240 m
145 m · ?
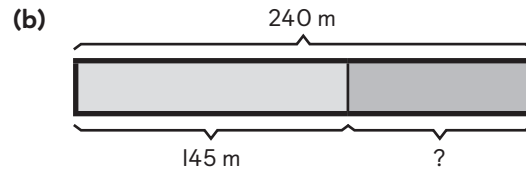
240 − 145 = 95

Mr. Lawrence has __95__ meters of cloth left.

7. No, I do not agree with Amy.
Accept all correct explanations. Example:
Amy cannot compare multiplication equations this way as the numbers represent different things. 7 and 5 represent the number of groups while 30 and 40 represent the number of objects.

$7 \times 30 = 210$
$5 \times 40 = 200$
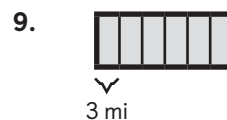Since 210 > 200, it is not true that 5×40 is greater than 7×30.

8.

48 in.
?
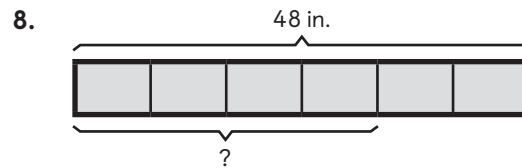
$48 \div 6 = 8$
The length of each piece of ribbon is 8 inches.

$4 \times 8 = 32$
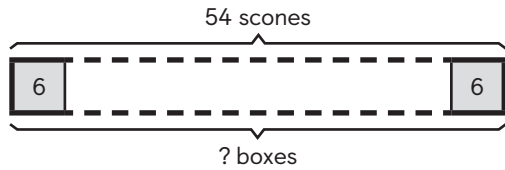The total length of ribbon Caleb uses is

__32__ inches.

9.

3 mi

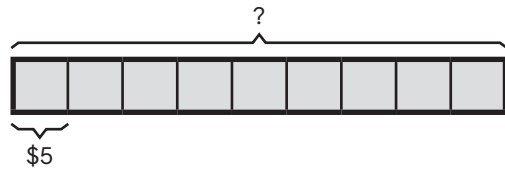$6 \times 3 = 18$
Tim runs 18 miles in a week.

?
18 mi
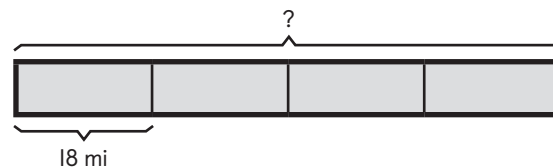
$4 \times 18 = 72$

Tim runs __72__ miles in 4 weeks.

10.

54 scones

$54 \div 6 = 9$

There are 9 boxes of banana scones.

$9 \times 5 = 45$

Kelly receives $\underline{\quad 45 \quad}$.

11. **(a)** $6 \times 6 = 36$

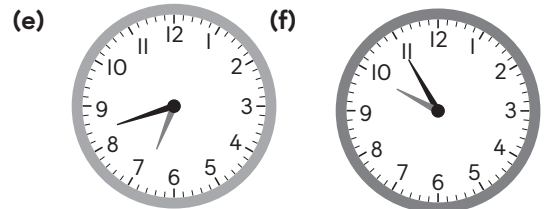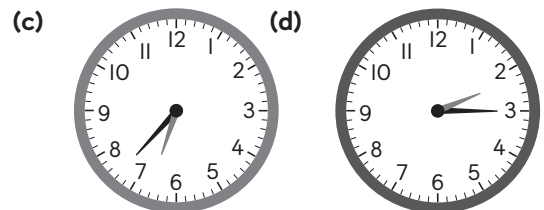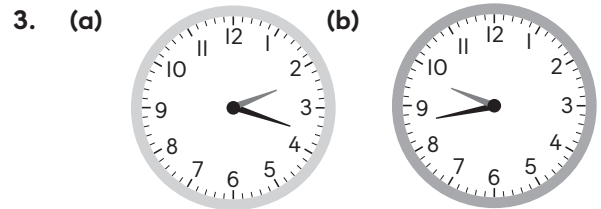The greatest number of bags of beads Helen can buy is 6.

(b)
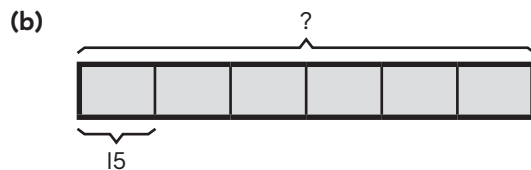
$6 \times 15 = 90$

Helen will get 90 beads.

No. $9 \times 12 = 108$
Helen needs 108 beads to make 9 bracelets. Since she will get only 90 beads, she does not have enough beads to make 9 bracelets.

Chapter 5   TIME

Exercise 5A   Hours and Minutes (1)

1. **(a)** $\underline{\quad 10 \quad}$ minutes after $\underline{\quad 4 \quad}$ o'clock

$\underline{\quad 10 \quad}$ minutes past $\underline{\quad 4 \quad}$

$\underline{\quad 4 \quad}$: $\underline{\quad 10 \quad}$

(b) $\underline{\quad 19 \quad}$ minutes after $\underline{\quad 8 \quad}$ o'clock

$\underline{\quad 19 \quad}$ minutes past $\underline{\quad 8 \quad}$

$\underline{\quad 8 \quad}$: $\underline{\quad 19 \quad}$

(c) $\underline{\quad 25 \quad}$ minutes before $\underline{\quad 11 \quad}$ o'clock

$\underline{\quad 25 \quad}$ minutes to $\underline{\quad 11 \quad}$

$\underline{\quad 10 \quad}$: $\underline{\quad 35 \quad}$

(d) $\underline{\quad 7 \quad}$ minutes before $\underline{\quad 1 \quad}$ o'clock

$\underline{\quad 7 \quad}$ minutes to $\underline{\quad 1 \quad}$

$\underline{\quad 12 \quad}$: $\underline{\quad 53 \quad}$

2. **(a)** 7:58 **(b)** 12:29

(c) 5:23 **(d)** 11:43

(e) 3:35 **(f)** 8:42

3. **(a)** **(b)**

(c) **(d)**

(e) **(f)**

4. **(a)** 27; 7 **(b)** 6:45 **(c)** 20; 10

Exercise 5A   Hours and Minutes (2)

1. **(a)**

10:00   2 hours   12:00

(b)

3:40   15 minutes   3:55

(c)

5:45   7:45   8:25

2. **(a)** 5:10 p.m.   **(b)** 10:15 a.m.

     (c) 1:10 p.m.

3. **(a)**

2 h 30 min = __120__ min + __30__ min

= __150__ min

(b)

1 h 20 min = __60__ min + __20__ min

= __80__ min

(c)

__3__ h __45__ min

= __180__ min + __45__ min

= __225__ min
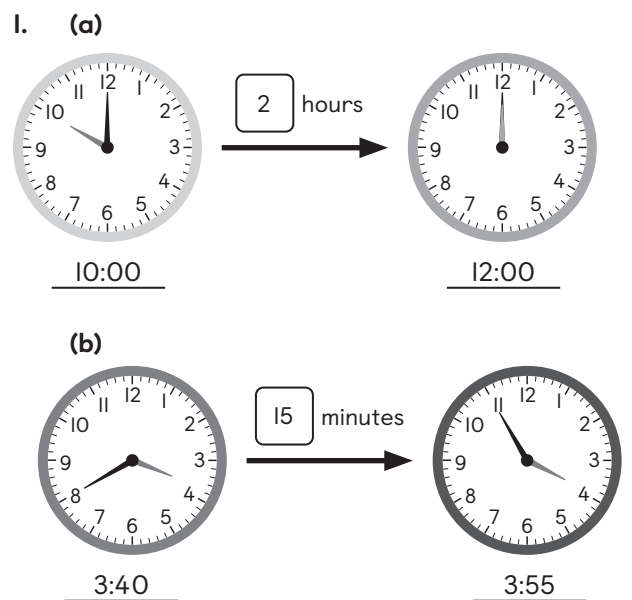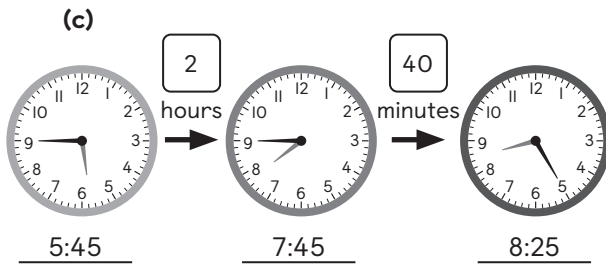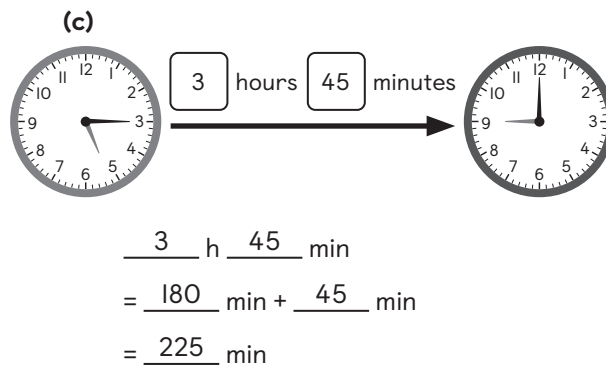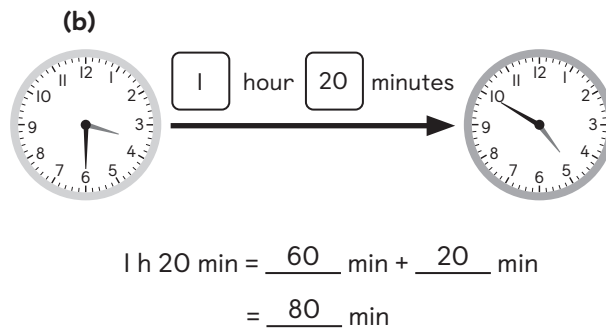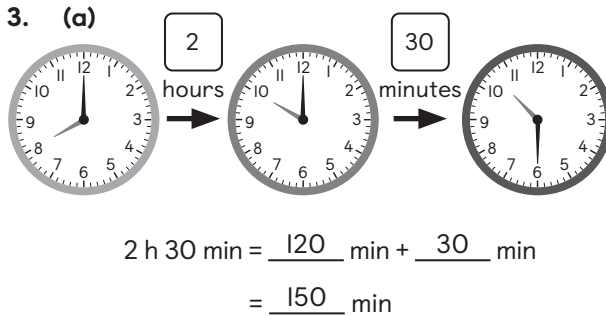
4. **(a)** 3 h 10 min   **(b)** 3 h 1 min

5. 2 h 15 min = 120 min + 15 min

= 135 min

Jenny cycled for __135__ minutes.

Exercise 5B   Word Problems (1)

1.

9:30 a.m.   1:30 p.m. 2:00 p.m.
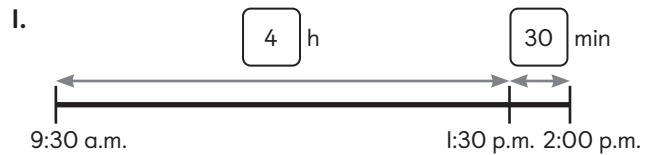
__4__ h + __30__ min = __4__ h __30__ min

Jane was in school for __4__ hours

__30__ minutes.

2.

4:00 p.m.   5:00 p.m.   5:45 p.m.
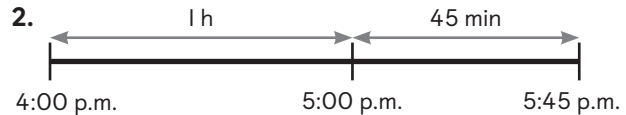
__1__ h + __45__ min = __1__ h __45__ min

Ryan takes __1__ hour __45__ minutes to do his homework.

3. 1 h 20 min + 1 h 55 min = 3 h 15 min

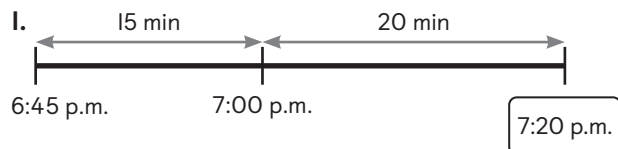Matthew spent __3__ hours __15__ minutes ironing and cooking in all.
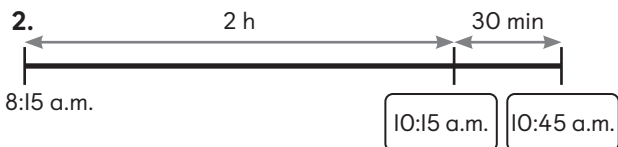
4. 90 min − 55 min = 35 min

Henry took __35__ minutes longer.

5. 80 min − 55 min = 25 min
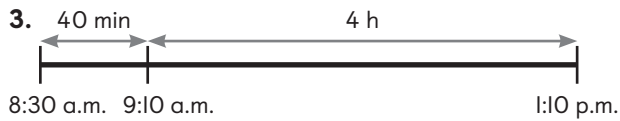
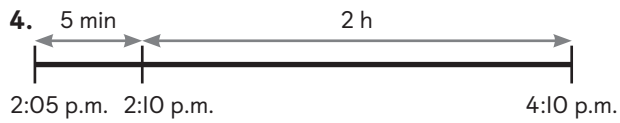__Mr. Hughes__ took __25__ minutes shorter.

Exercise 5B   Word Problems (2)

1.

6:45 p.m.   7:00 p.m.   7:20 p.m.

The program ended at __7:20 p.m.__.

2.

8:15 a.m.   10:15 a.m. 10:45 a.m.

Arthur finished cleaning his house at __10:45 a.m.__

3.

40 min	4 h

8:30 a.m. 9:10 a.m.   1:10 p.m.

Sandra arrived in school at <u>8:30 a.m.</u>.

4.

5 min	2 h

2:05 p.m. 2:10 p.m.   4:10 p.m.

Dan set off for the beach at <u>2:05 p.m.</u>

5. 15 min + 20 min = 35 min

35 min	2 h

7:10 p.m. 7:45 p.m.   9:45 p.m.

The concert started at <u>7:10 p.m.</u>

Chapter Practice

1. D **2.** C

3. A **4.** 82

5. 13

6.

1 h	25 min

6:50 p.m.   7:50 p.m. 8:15 p.m.

Yvonne cycled for <u>1</u> hour <u>25</u> minutes.

7.

18 min	4 min	25 min

8:05 a.m.   8:23 a.m. 8:27 a.m.   8:52 a.m.

Peter reaches his destination at <u>8:52 a.m.</u>

8.

48 min	20 min	58 min

8:34 p.m.   9:22 p.m. 9:42 p.m.   10:40 p.m.

The concert started at <u>8:34 p.m.</u>

9.

45 min	1 h	20 min

9:20 a.m.   10:05 a.m.   11:05 a.m. 11:25 a.m.

45 min + 1 h = 45 min + 60 min
= 105 min

The Gomez family swam for <u>105</u> minutes.

10. Work backwards:
appointment time → 2.05 p.m.
15 minutes before appointment time → 1:50 p.m.
25 minutes journey → 1:25 p.m.

Bus timings:
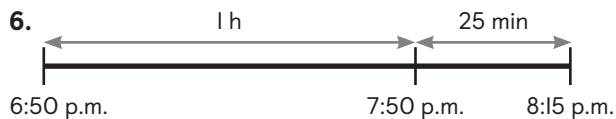8:30 a.m., 8:50 a.m., 9:10 a.m., 9:30 a.m.,
9:50 a.m., … 1:10 p.m., 1:30 p.m., …

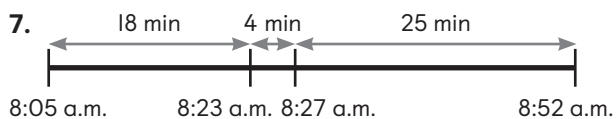Ms. Vale must take the bus at <u>1:10 p.m.</u> in order to be on time for her appointment.