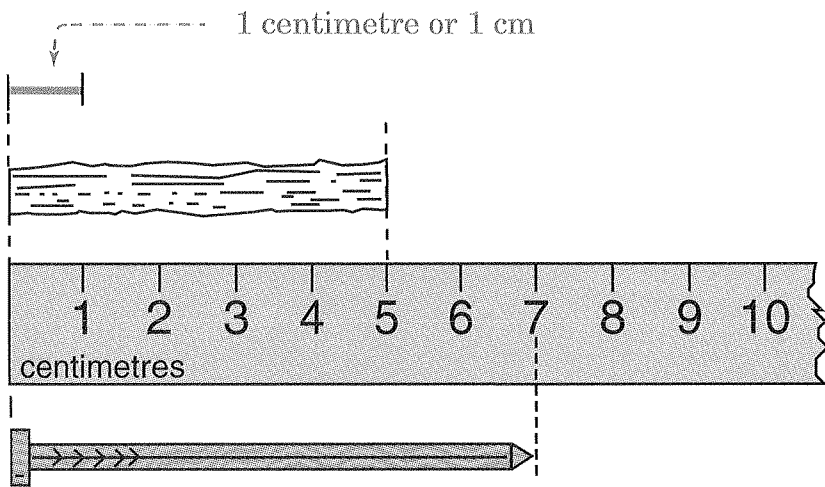


# Lesson 1 Centimetre (cm)



The stick is 5 cm long.

The nail is \_\_\_\_\_ cm long.

Find the length of each picture to the nearest centimetre.

1. \_\_\_\_\_ cm 

2. \_\_\_\_\_ cm 

3. \_\_\_\_\_ cm 

4. \_\_\_\_\_ cm 

5. \_\_\_\_\_ cm 

6. \_\_\_\_\_ cm 

Use a ruler to draw a line segment for each measurement.

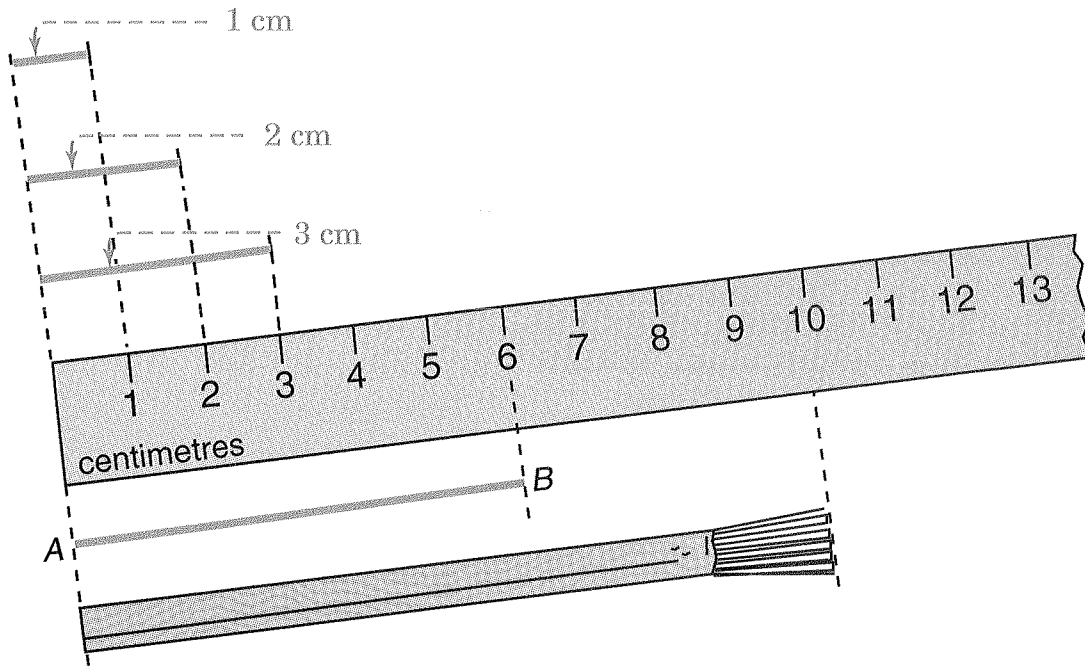
7. 4 cm

8. 9 cm

9. 11 cm

10. 13 cm

# Lesson 2 More Centimetres



Line segment  $AB$  is 6 cm long.

The brush is \_\_\_\_\_ cm long.

Find the length of each picture to the nearest centimetre.

1. \_\_\_\_\_ cm 

2. \_\_\_\_\_ cm 

3. \_\_\_\_\_ cm 

4. \_\_\_\_\_ cm 

5. \_\_\_\_\_ cm 

Use a ruler to draw a line segment for each measurement.

6. 6 cm

7. 4 cm

8. 12 cm

# Lesson 3 Units of Length

$$600 \text{ cm} = \underline{\quad? \quad} \text{ m}$$

$$100 \text{ cm} = 1 \text{ m}$$

$$\begin{array}{r} 6 \\ 100 \overline{) 600} \end{array}$$

$$600 \text{ cm} = \underline{\quad 6 \quad} \text{ m}$$

$$1 \text{ centimetre (cm)} = 10 \text{ millimetres (mm)}$$

$$1 \text{ metre (m)} = 100 \text{ cm}$$

$$1 \text{ m} = 1000 \text{ mm}$$

$$1 \text{ kilometre (km)} = 1000 \text{ m}$$

$$4 \text{ m} = \underline{\quad? \quad} \text{ cm}$$

$$1 \text{ m} = 100 \text{ cm}$$

$$\begin{array}{r} \downarrow \qquad \downarrow \\ 1 \qquad 100 \\ \times 4 \qquad \times 4 \\ \hline 4 \qquad 400 \\ \downarrow \qquad \downarrow \\ 4 \text{ m} = \underline{\quad \quad} \text{ cm} \end{array}$$

Complete the following.

*a*

*b*

1.  $3 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$12\,000 \text{ m} = \underline{\hspace{2cm}} \text{ km}$

2.  $2 \text{ m} = \underline{\hspace{2cm}} \text{ mm}$

$5 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

3.  $5 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$7 \text{ m} = \underline{\hspace{2cm}} \text{ mm}$

4.  $2 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

$6 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

5.  $2000 \text{ mm} = \underline{\hspace{2cm}} \text{ m}$

$7000 \text{ m} = \underline{\hspace{2cm}} \text{ km}$

6.  $7 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$9 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

7.  $9 \text{ m} = \underline{\hspace{2cm}} \text{ mm}$

$5 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

8.  $15 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

$500 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

9.  $600 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

$7 \text{ m} = \underline{\hspace{2cm}} \text{ mm}$

10.  $3 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$300 \text{ cm} = \underline{\hspace{2cm}} \text{ m}$

11.  $8 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

$9 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

12.  $10 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

$3 \text{ km} = \underline{\hspace{2cm}} \text{ m}$

## Lesson 3 Problem Solving

Solve each problem.

1. Mr. Jefferson is 2 m tall. What is his height in centimetres?

His height is \_\_\_\_\_ cm.

2. In baseball the distance between home plate and first base is 27 m. What is this distance in centimetres?

The distance is \_\_\_\_\_ cm.

3. Jeromy has 150 m of kite string. How many centimetres of kite string does he have?

He has \_\_\_\_\_ cm of kite string.

4. A trench is 2 m deep. What is the depth of the trench in centimetres?

The trench is \_\_\_\_\_ cm deep.

5. There are 1000 m in a kilometre. How many centimetres are there in a kilometre?

There are \_\_\_\_\_ cm in a kilometre.

6. One of the pro quarterbacks can throw a football 54 m. How many centimetres can he throw the football?

He can throw the football \_\_\_\_\_ cm.

7. Marcena has 8 m of ribbon. How many centimetres of ribbon does she have?

She has \_\_\_\_\_ cm of ribbon.

8. A rope is 3 m long. What is the length of the rope in centimetres?

The rope is \_\_\_\_\_ cm long.

9. A certain car is 2 m wide. What is the width of the car in millimetres?

The car is \_\_\_\_\_ mm wide.

1.

2.

3.

4.

5.

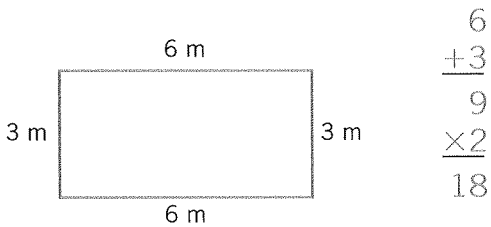
6.

7.

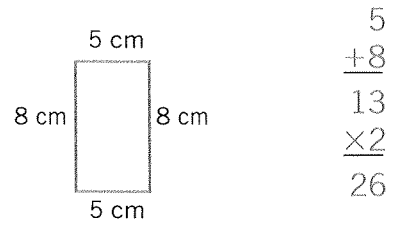
8.

9.

# Lesson 4 Perimeter



The perimeter is 18 m.



The perimeter is \_\_\_\_\_ cm.

To find the perimeter of a rectangle,  
 (1) add the measures of the length and width and  
 (2) multiply that sum by two.

Find the perimeter of each rectangle below.

**1.** *a*

\_\_\_\_\_ m

**1.** *b*

\_\_\_\_\_ mm

**1.** *c*

\_\_\_\_\_ km

**2.**

\_\_\_\_\_ cm

**2.**

\_\_\_\_\_ cm

**2.**

\_\_\_\_\_ m

**3.**

\_\_\_\_\_ m

**3.**

\_\_\_\_\_ mm

**3.**

\_\_\_\_\_ m

**4.**

\_\_\_\_\_ mm

**4.**

\_\_\_\_\_ m

**4.**

\_\_\_\_\_ cm

## Lesson 4 Problem Solving

Solve each problem.

1. Mr. Champney's garden is shaped like a rectangle. The rectangle is 24 m long and 16 m wide. What is the perimeter of his garden? **1.**

The perimeter of his garden is \_\_\_\_\_ m.

2. A rectangular desktop is 60 cm long and 40 cm wide. What is the perimeter of the desktop? **2.**

The perimeter of the desktop is \_\_\_\_\_ cm.

3. A flower garden is shaped like a rectangle. The length of the rectangle is 40 m and the width is 30 m. How many metres of edging will be needed to go around the garden? **3.**

\_\_\_\_\_ m of edging will be needed.

4. A rectangular windowpane is 70 cm long and 60 cm wide. What is the perimeter of the windowpane? **4.**

The perimeter is \_\_\_\_\_ cm.

5. Mrs. Richardson has a rectangular-shaped mirror that is 2 m long and 1 m wide. How many metres of ribbon will she need to go around the edges of the mirror? **5.**

She will need \_\_\_\_\_ m of ribbon.

6. A rectangular picture frame is 80 cm long and 60 cm wide. What is the perimeter of the picture frame? **6.**

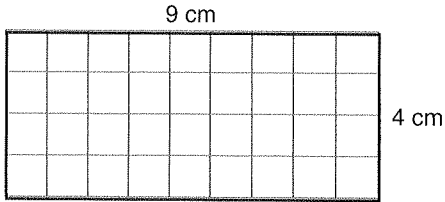
The perimeter is \_\_\_\_\_ cm.

7. The playing surface of a football field is shaped like a rectangle. The length of the field is 100 m and the width is 60 m. What is the perimeter of a football field? **7.**

The perimeter is \_\_\_\_\_ m.

# Lesson 5 Area

To find the **area** of a square or rectangle, multiply the length by the width.



The length of the rectangle is 9 cm.  
The width of the rectangle is 4 cm.

$$\begin{array}{r} 9 \\ \times 4 \\ \hline 36 \end{array}$$

The area of the rectangle is 36 square centimetres (cm<sup>2</sup>).

Find the area of each square or rectangle.

**1.** *a*

\_\_\_\_\_ cm<sup>2</sup>

*b*

\_\_\_\_\_ m<sup>2</sup>

*c*

\_\_\_\_\_ mm<sup>2</sup>

**2.**

\_\_\_\_\_ m<sup>2</sup>

\_\_\_\_\_ cm<sup>2</sup>

\_\_\_\_\_ km<sup>2</sup>

**3.**

\_\_\_\_\_ cm<sup>2</sup>

\_\_\_\_\_ mm<sup>2</sup>

\_\_\_\_\_ m<sup>2</sup>

**4.**

\_\_\_\_\_ m<sup>2</sup>

\_\_\_\_\_ cm<sup>2</sup>

\_\_\_\_\_ km<sup>2</sup>

## Lesson 5 Problem Solving

Solve each problem.

1. Derek painted a wall that was 5 m long and 3 m high. What area did he paint? **1.**

The area of the wall is \_\_\_\_\_  $\text{m}^2$ .

2. Jackie made a bed for her dog that was 60 cm wide and 105 cm long. What is the area of the dog bed? **2.**

The area of the dog bed is \_\_\_\_\_  $\text{cm}^2$ .

3. A computer screen measures 30 cm high and 35 cm wide. What is the area of the computer screen? **3.**

The area of the screen is \_\_\_\_\_  $\text{cm}^2$ .

4. Isaac put a new rug in his living room. The rug measures 5 m long and 3 m wide. What is the area of the rug? **4.**

The area of the rug is \_\_\_\_\_  $\text{m}^2$ .

5. Mr. and Mrs. Kovac plan to build a new house that will be 16 m long and 11 m wide. How much area will the house cover? **5.**

The area of the house is \_\_\_\_\_  $\text{m}^2$ .

6. Kendra painted a picture that was 91 cm wide and 53 cm tall. What is the area of the painting? **6.**

The area of the painting is \_\_\_\_\_  $\text{cm}^2$ .



## Lesson 6 Capacity

$$6 \text{ L} = \text{? mL}$$

$$1 \text{ L} = 1000 \text{ mL}$$

$$\begin{array}{r} \downarrow \qquad \downarrow \\ 1 \qquad 1000 \\ \times 6 \qquad \times 6 \\ \hline 6 \qquad 6000 \\ \downarrow \qquad \downarrow \end{array}$$

$$6 \text{ L} = \text{_____ mL}$$

1 litre (L) = 1000 millilitres (mL)

1 kilolitre (kL) = 1000 L

$$12\ 000 \text{ L} = \text{? kL}$$

$$1000 \text{ L} = 1 \text{ kL}$$

$$\begin{array}{r} 12 \\ 1000 \overline{)12\ 000} \end{array}$$

$$12\ 000 \text{ L} = \text{_____ L}$$

Complete the following.

*a*

*b*

1. 6000 mL = \_\_\_\_\_ L
  2. 4000 mL = \_\_\_\_\_ L
  3. 8000 L = \_\_\_\_\_ kL
  4. 8 L = \_\_\_\_\_ mL
  5. 10 L = \_\_\_\_\_ mL
  6. 5 kL = \_\_\_\_\_ L
  7. 10 kL = \_\_\_\_\_ L
  8. 2000 L = \_\_\_\_\_ kL
  9. 10 L = \_\_\_\_\_ mL
  10. 3000 L = \_\_\_\_\_ kL
  11. 16 L = \_\_\_\_\_ mL
  12. 10 000 mL = \_\_\_\_\_ L
1. 12 L = \_\_\_\_\_ mL
  2. 8 kL = \_\_\_\_\_ L
  3. 6 L = \_\_\_\_\_ mL
  4. 7000 L = \_\_\_\_\_ kL
  5. 9000 mL = \_\_\_\_\_ L
  6. 5000 mL = \_\_\_\_\_ L
  7. 30 000 L = \_\_\_\_\_ kL
  8. 15 000 mL = \_\_\_\_\_ L
  9. 17 000 L = \_\_\_\_\_ kL
  10. 12 kL = \_\_\_\_\_ L
  11. 28 L = \_\_\_\_\_ mL
  12. 16 kL = \_\_\_\_\_ L

## Lesson 6 Problem Solving

Solve each problem.

1. There are 6 L of lemonade in a picnic cooler. How many 1000-mL containers can be filled by using the lemonade in the cooler?

\_\_\_\_\_ containers can be filled.

2. The cooling system on a car holds 16 L. How many millilitres does it hold?

It holds \_\_\_\_\_ mL.

3. In problem 2, how many millilitres do five cooling systems hold?

They hold \_\_\_\_\_ mL.

4. There are 376 L of milk delivered to the store. How many millilitres of milk is this?

It is \_\_\_\_\_ mL of milk.

5. How many litres of water would be needed to fill a 10-kL aquarium?

\_\_\_\_\_ L would be needed.

6. The lunchroom served 16 L of milk at lunch. How many millilitres of milk was this?

It was \_\_\_\_\_ mL of milk.

7. There are 1200 mL of liquid in a container. How many 100-mL jars can be filled by using the liquid in the container?

\_\_\_\_\_ jars can be filled.

8. There are 6 L of bleach in a container. How many millilitres of bleach are in the container?

There are \_\_\_\_\_ mL of bleach in the container.

1.

2.

3.

4.

5.

6.

7.

8.

# Lesson 7 Mass

Tonne (t), milligram (mg), gram (g), and kilogram (kg) are units of mass.

1 t = 1000 kg  
 1 kg = 1000 g  
 1 g = 1000 mg

$5 \text{ kg} = \underline{\quad? \quad} \text{ g}$ $1 \text{ kg} = 1000 \text{ g}$ $\downarrow$ $\downarrow$ $1$ $1000$ $\times 5$ $\times 5$ $\hline 5$ $\hline 5000$ $\downarrow$ $\downarrow$ $5 \text{ kg} = \underline{5000} \text{ g}$
--

$2 \text{ t} = \underline{\quad? \quad} \text{ kg}$ $1 \text{ t} = 1000 \text{ kg}$ $\downarrow$ $\downarrow$ $1$ $1000$ $\times 2$ $\times 2$ $\hline 2$ $\hline 2000$ $\downarrow$ $\downarrow$ $2 \text{ t} = \underline{\quad\quad\quad} \text{ kg}$
---

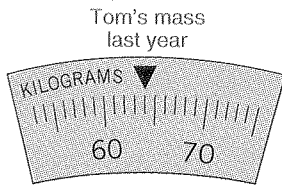
Complete the following.

*a*

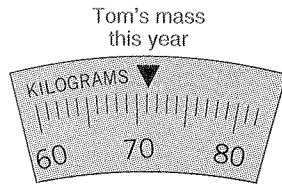
*b*

- |   |                |
|---|----------------|
| 1. $2 \text{ kg} = \underline{\quad\quad\quad} \text{ g}$ | 6 t = _____ kg |
| 2. $2 \text{ t} = \underline{\quad\quad\quad} \text{ kg}$ | 4 kg = _____ g |
| 3. $7 \text{ g} = \underline{\quad\quad\quad} \text{ mg}$ | 5 t = _____ kg |

4. Tell the mass shown on each scale.



\_\_\_\_\_ kg



\_\_\_\_\_ kg

5. How many kilograms did Tom gain?

Tom gained \_\_\_\_\_ kg since last year.

Complete the table.

	Tonnes	Kilograms	Grams	Milligrams
6.		1000		
7.	4			
8.	7		7 000 000	

## Lesson 7 Problem Solving

Solve each problem.

1. Mrs. Wilson bought a 6-kg turkey. What is the mass of the turkey in grams? **1.**

The mass of the turkey is \_\_\_\_\_ g.

2. The Garden Club grew 2 t of watermelons to sell. How many kilograms of watermelons did they grow? **2.**

The club grew \_\_\_\_\_ kg of watermelons.

3. Mason bought 50 kg of apples to make applesauce. How many grams of apples did he buy? **3.**

Mason bought \_\_\_\_\_ g of apples.

4. Brett bought a truck that can hold 25 t of stone. How many kilograms of stone could the truck hold? **4.**

The truck can hold \_\_\_\_\_ kg of stone.

5. Jack and Beth picked 163 kg of blueberries. How many grams of blueberries did they pick? **5.**

They picked \_\_\_\_\_ g of blueberries.

6. An African elephant can have a mass of 6 t. How many kilograms can be the mass of an African elephant? **6.**

An African elephant can have a mass of \_\_\_\_\_ kg.

## Lesson 8 Time

Second, minute, hour, and day are units of time.

$$1 \text{ minute (min)} = 60 \text{ seconds (s)}$$

$$1 \text{ hour (h)} = 60 \text{ min}$$

$$1 \text{ day} = 24 \text{ h}$$

$3 \text{ min} = \underline{\quad? \quad} \text{ s}$
$1 \text{ min} = 60 \text{ s}$
$\begin{array}{r} \downarrow \qquad \downarrow \\ 1 \qquad 60 \\ \times 3 \qquad \times 3 \\ \hline 3 \qquad 180 \\ \downarrow \qquad \downarrow \end{array}$
$3 \text{ min} = \underline{\hspace{2cm}} \text{ s}$

Complete the following.

*a*

1. 2 h = \_\_\_\_\_ min
2. 2 days = \_\_\_\_\_ h
3. 5 min = \_\_\_\_\_ s
4. 12 h = \_\_\_\_\_ min
5. 5 days = \_\_\_\_\_ h
6. 24 h = \_\_\_\_\_ min
7. 4 min = \_\_\_\_\_ s
8. 13 min = \_\_\_\_\_ s
9. 6 h = \_\_\_\_\_ min
10. 15 min = \_\_\_\_\_ s
11. 14 days = \_\_\_\_\_ h
12. 4 h = \_\_\_\_\_ min
13. 30 min = \_\_\_\_\_ s
14. 30 days = \_\_\_\_\_ h
15. 15 h = \_\_\_\_\_ min

*b*

1. 8 min = \_\_\_\_\_ s
2. 5 h = \_\_\_\_\_ min
3. 3 days = \_\_\_\_\_ h
4. 6 min = \_\_\_\_\_ s
5. 10 min = \_\_\_\_\_ s
6. 7 days = \_\_\_\_\_ h
7. 8 h = \_\_\_\_\_ min
8. 10 days = \_\_\_\_\_ h
9. 4 days = \_\_\_\_\_ h
10. 3 h = \_\_\_\_\_ min
11. 7 min = \_\_\_\_\_ s
12. 8 days = \_\_\_\_\_ h
13. 48 h = \_\_\_\_\_ min
14. 25 min = \_\_\_\_\_ s
15. 9 days = \_\_\_\_\_ h

## Lesson 9 Temperature (Celsius)

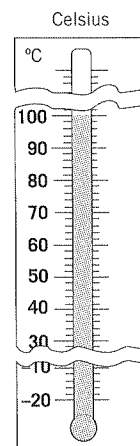
Use degrees Celsius to measure the temperature. Read the top of the liquid in the thermometer to tell the temperature. Write  $25^{\circ}\text{C}$ .

In degrees Celsius, water freezes at  $0^{\circ}\text{C}$ .

In degrees Celsius, water boils at  $100^{\circ}\text{C}$ .

Your normal body temperature is about  $37^{\circ}\text{C}$ .

Use a minus sign to show temperatures colder than  $0^{\circ}\text{C}$ .



Record the temperature shown on each thermometer.

1. \_\_\_\_\_ $^{\circ}\text{C}$       \_\_\_\_\_ $^{\circ}\text{C}$       \_\_\_\_\_ $^{\circ}\text{C}$       \_\_\_\_\_ $^{\circ}\text{C}$

2. Water freezes at  $0^{\circ}\text{C}$  and boils at  $100^{\circ}\text{C}$ . What is the difference between those two temperatures?

The difference is \_\_\_\_\_ $^{\circ}\text{C}$ .

3. At 6 A.M. the temperature was  $13^{\circ}\text{C}$ . The high temperature was expected to be  $19^{\circ}\text{C}$  warmer than that. What was the high temperature expected to be?

\_\_\_\_\_ $^{\circ}\text{C}$  was the expected high temperature.

4. During a windy day, the windchill was  $-14^{\circ}\text{C}$ . With no wind, the temperature would have been  $16^{\circ}\text{C}$  warmer. What would have been the temperature with no wind?

The temperature would have been \_\_\_\_\_ $^{\circ}\text{C}$ .

2. \_\_\_\_\_

---

3. \_\_\_\_\_

---

4. \_\_\_\_\_

## Lesson 10 Problem Solving

Solve each problem.

1. David wants to put a fence around his pool for safety reasons. The pool is 10 m long and 6 m wide. How much fencing does David need? **1.**

David needs \_\_\_\_\_ m of fencing.

2. David also wants to get a cover for his pool. How many square metres will he need to cover? **2.**

David needs to cover \_\_\_\_\_ m<sup>2</sup>.

3. Sonia had to wait 3 h in the doctor's office. How many minutes did she have to wait? **3.**

Sonia had to wait \_\_\_\_\_ min.

4. There are 5 L of water in a container. How many 200-mL canteens can be filled by using the water in the container? **4.**

\_\_\_\_\_ canteens can be filled.

5. A football field is 100 m long. What is that distance in centimetres? **5.**

The football field is \_\_\_\_\_ cm long.

6. A bison can live 33 years. How many days can a bison live? **6.**

A bison can live \_\_\_\_\_ days.

## Lesson 10 Problem Solving

Solve each problem.

7. A building on Main Street is 38 m tall. What is its height in centimetres?

The building is \_\_\_\_\_ cm tall.

8. A board is 43 m long. What is the length of the board in millimetres?

The board is \_\_\_\_\_ mm long.

9. A rectangular picture frame is 70 cm wide and 90 cm long. What is the perimeter of the frame?

The perimeter of the frame is \_\_\_\_\_ cm.

10. The side of a barn is 5 m high and 36 m long. What is the area of the side of the barn?

The area of the side of the barn is \_\_\_\_\_ m<sup>2</sup>.

11. How many litres of soup would be needed to fill a 2-kL vat?

\_\_\_\_\_ L would be needed.

12. According to the story, Rip Van Winkle slept for 20 years. A year has 365 days. How many days did he sleep?

Rip Van Winkle slept for \_\_\_\_\_ days.

13. The CN Tower in Toronto is 553 m tall. How many centimetres tall is the CN Tower?

The CN Tower is \_\_\_\_\_ cm tall.

7.

8.

9.

10.

11.

12.

13.



# CHAPTER 15 PRACTICE TEST

## More Metric Measurement

Find the length of each line segment to the nearest cm.

*a**b*1. 

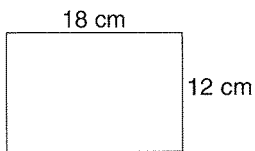
\_\_\_\_\_ cm

\_\_\_\_\_ cm

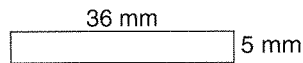
Find the perimeter of each figure.

*a**b**c*

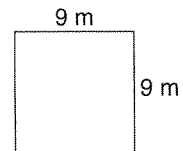
2.



\_\_\_\_\_ cm



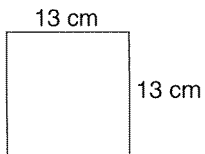
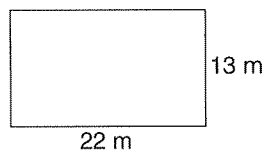
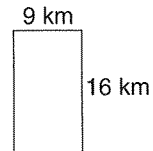
\_\_\_\_\_ mm



\_\_\_\_\_ m

Find the area of each quadrilateral.

3.

\_\_\_\_\_ cm<sup>2</sup>\_\_\_\_\_ m<sup>2</sup>\_\_\_\_\_ km<sup>2</sup>

Complete the following.

*a**b*

4. 5 m = \_\_\_\_\_ cm

3 h = \_\_\_\_\_ min

5. 7 L = \_\_\_\_\_ mL

9 m = \_\_\_\_\_ mm

6. 5 kg = \_\_\_\_\_ g

15 min = \_\_\_\_\_ s

# CHAPTER 16 PRETEST

## Graphs and Probability

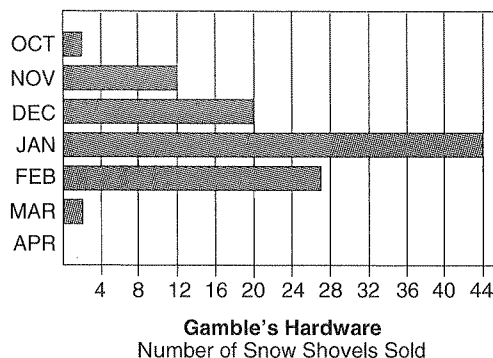
Use the bar graph to answer each question.

1. How many snow shovels did the store sell in November?

The store sold \_\_\_\_\_ snow shovels.

2. How many more snow shovels were sold in January than in March?

\_\_\_\_\_ more snow shovels were sold in January.



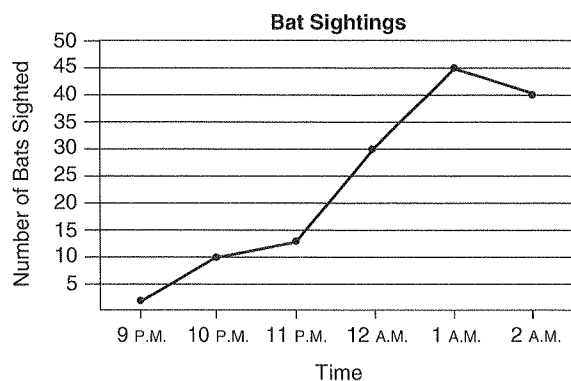
Use the line graph to answer each question.

3. How many bats were sighted at 12 A.M.?

\_\_\_\_\_ bats were sighted.

4. How many more bats were sighted at 1 A.M. than at 10 P.M.?

\_\_\_\_\_ more bats were sighted.



Find the median, mode, and range of each set of numbers.

5. 6, 8, 3, 2, 9, 4, 6, 11, 15, 9, 4, 2, 9

The median is \_\_\_\_\_.

The mode is \_\_\_\_\_.

The range is \_\_\_\_\_.

- 15, 12, 17, 15, 26, 17, 31, 26, 17

The median is \_\_\_\_\_.

The mode is \_\_\_\_\_.

The range is \_\_\_\_\_.

Refer to the spinner.

6. What is the probability of spinning a 4?

The probability is \_\_\_\_\_.

