

## Lesson 1 Units of Length

$$\begin{aligned} 1 \text{ m} &= 100 \text{ cm} \\ 1 \text{ m} &= 1000 \text{ mm} \\ 1 \text{ cm} &= 10 \text{ mm} \end{aligned}$$

$$6 \text{ cm} = \underline{\quad? \quad} \text{ mm}$$

$$1 \text{ cm} = 10 \text{ mm}$$

$$6 \text{ cm} = (6 \times 10) \text{ mm}$$

$$6 \text{ m} = \underline{60} \text{ mm}$$

$$40 \text{ mm} = \underline{\quad? \quad} \text{ cm}$$

$$10 \text{ mm} = 1 \text{ cm}$$

$$40 \text{ mm} = (40 \div 10) \text{ cm}$$

$$40 \text{ mm} = \underline{\quad\quad\quad} \text{ cm}$$

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

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

$$4 \text{ m} = (4 \times 100) \text{ cm}$$

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

Complete the following.

*a*

$$1. \quad 50 \text{ mm} = \underline{\quad\quad\quad} \text{ cm}$$

$$2. \quad 7 \text{ cm} = \underline{\quad\quad\quad} \text{ mm}$$

$$3. \quad 400 \text{ cm} = \underline{\quad\quad\quad} \text{ mm}$$

$$4. \quad 5 \text{ m} = \underline{\quad\quad\quad} \text{ cm}$$

$$5. \quad 7000 \text{ mm} = \underline{\quad\quad\quad} \text{ m}$$

$$6. \quad 7 \text{ m} = \underline{\quad\quad\quad} \text{ mm}$$

$$7. \quad 100 \text{ mm} = \underline{\quad\quad\quad} \text{ cm}$$

$$8. \quad 3000 \text{ mm} = \underline{\quad\quad\quad} \text{ m}$$

$$9. \quad 3 \text{ cm} = \underline{\quad\quad\quad} \text{ mm}$$

$$10. \quad 20 \text{ mm} = \underline{\quad\quad\quad} \text{ cm}$$

$$11. \quad 5 \text{ m} = \underline{\quad\quad\quad} \text{ mm}$$

*b*

$$5 \text{ cm} = \underline{\quad\quad\quad} \text{ mm}$$

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

$$2 \text{ m} = \underline{\quad\quad\quad} \text{ mm}$$

$$12 \text{ cm} = \underline{\quad\quad\quad} \text{ mm}$$

$$5 \text{ m} = \underline{\quad\quad\quad} \text{ cm}$$

$$4 \text{ cm} = \underline{\quad\quad\quad} \text{ mm}$$

$$6 \text{ m} = \underline{\quad\quad\quad} \text{ mm}$$

$$3 \text{ m} = \underline{\quad\quad\quad} \text{ cm}$$

$$8 \text{ cm} = \underline{\quad\quad\quad} \text{ mm}$$

$$2 \text{ cm} = \underline{\quad\quad\quad} \text{ mm}$$

$$1 \text{ m} = \underline{\quad\quad\quad} \text{ mm}$$

## Lesson 1 Problem Solving

Solve each problem.

1. The Higgins' fence is 200 cm high. What is the height of the fence in metres?

The height of the fence is \_\_\_\_\_ cm.

2. Mr. Baxter is 2 m tall. How many centimetres tall is he?

He is \_\_\_\_\_ cm tall.

3. Kasey purchased 2 m of ribbon. How many millimetres of ribbon did she purchase?

She purchased \_\_\_\_\_ mm of ribbon.

4. A football field is 59 m wide. What is the width of the field in centimetres?

The width of the field is \_\_\_\_\_ cm.

5. Zach threw a baseball 5000 cm. How many metres did he throw the baseball?

He threw the baseball \_\_\_\_\_ m.

6. Mr. Kelly's lot is 20 m wide. What is the width of the lot in centimetres?

The width of the lot is \_\_\_\_\_ cm.

7. Logan has a piece of wire 3000 mm long. What is the length of the wire in metres?

The length of the wire is \_\_\_\_\_ m.

8. When the high-jump bar is set at 200 cm, what is the height of the bar in millimetres?

The height is \_\_\_\_\_ mm.

9. Mrs. Avilla's garage door is 3 m wide. What is the width of the door in millimetres?

The width of the door is \_\_\_\_\_ mm.

1.

2.

3.

4.

5.

6.

7.

8.

9.

## Lesson 2 Units of Capacity, Time, Mass

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

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

$$60 \text{ s} = 1 \text{ min}$$

$$60 \text{ min} = 1 \text{ h}$$

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

$$1000 \text{ mg} = 1 \text{ g}$$

$$1000 \text{ g} = 1 \text{ kg}$$

$$1000 \text{ kg} = 1 \text{ t}$$

$$300 \text{ s} = \underline{\quad? \quad} \text{ min}$$

$$1 \text{ min} = 60 \text{ s}$$

$$300 \text{ s} = (300 \div 60) \text{ min}$$

$$300 \text{ s} = \underline{\quad\quad\quad} \text{ min}$$

$$5 \text{ kg} = \underline{\quad? \quad} \text{ g}$$

$$1 \text{ kg} = 1000 \text{ g}$$

$$5 \text{ kg} = (5 \times 1000) \text{ g}$$

$$5 \text{ kg} = \underline{\quad\quad\quad} \text{ g}$$

Complete the following.

*a*

1.  $5\frac{1}{2} \text{ min} = \underline{\quad\quad\quad} \text{ s}$

2.  $3000 \text{ g} = \underline{\quad\quad\quad} \text{ kg}$

3.  $5000 \text{ L} = \underline{\quad\quad\quad} \text{ kL}$

4.  $3\frac{1}{2} \text{ h} = \underline{\quad\quad\quad} \text{ min}$

5.  $3 \text{ t} = \underline{\quad\quad\quad} \text{ kg}$

6.  $3000 \text{ mL} = \underline{\quad\quad\quad} \text{ L}$

7.  $72 \text{ min} = \underline{\quad\quad\quad} \text{ h}$

8.  $2000 \text{ mL} = \underline{\quad\quad\quad} \text{ L}$

9.  $96 \text{ h} = \underline{\quad\quad\quad} \text{ days}$

10.  $4 \text{ g} = \underline{\quad\quad\quad} \text{ mg}$

11.  $3 \text{ days} = \underline{\quad\quad\quad} \text{ h}$

*b*

$2 \text{ min } 14 \text{ s} = \underline{\quad\quad\quad} \text{ s}$

$3 \text{ h } 40 \text{ min} = \underline{\quad\quad\quad} \text{ min}$

$5 \text{ kL} = \underline{\quad\quad\quad} \text{ L}$

$3 \text{ L} = \underline{\quad\quad\quad} \text{ mL}$

$2 \text{ L} = \underline{\quad\quad\quad} \text{ mL}$

$6 \text{ kg} = \underline{\quad\quad\quad} \text{ g}$

$3 \text{ min } 51 \text{ s} = \underline{\quad\quad\quad} \text{ s}$

$10 \text{ g} = \underline{\quad\quad\quad} \text{ mg}$

$5 \text{ h } 16 \text{ min} = \underline{\quad\quad\quad} \text{ min}$

$2 \text{ h } 15 \text{ min} = \underline{\quad\quad\quad} \text{ min}$

$3 \text{ kL} = \underline{\quad\quad\quad} \text{ L}$

## Lesson 2 Problem Solving

Solve each problem.

1. It took Jeremy 3 min 25 s to run around the block. How many seconds did it take him to run around the block?

It took him \_\_\_\_\_ s.

2. The capacity of a container is 2 kL. What is the capacity of the container in litres?

The capacity is \_\_\_\_\_ L.

3. Last month 64 000 mL of milk were delivered to the Collins' house. How many litres of milk was that?

That was \_\_\_\_\_ L of milk.

4. Mrs. Johnson purchased a 2-kg can of shortening. How many grams of shortening did she purchase?

She purchased \_\_\_\_\_ g of shortening.

5. Mr. Singer showed his class a film that lasted 120 min. How many hours did the film last?

The film lasted \_\_\_\_\_ h.

6. The cooling system of Mr. Bigg's car has a capacity of 8 L. What is the capacity of the cooling system in millilitres?

The capacity is \_\_\_\_\_ mL.

7. The Smith's baby had a mass of 4 kg at birth. What was the mass of the baby in grams?

The baby's mass was \_\_\_\_\_ g.

8. An elephant at the zoo has a mass of 2 t. What is the mass of the elephant in kilograms?

The elephant has a mass of \_\_\_\_\_ kg.

1.

2.

3.

4.

5.

6.

7.

8.

## Lesson 3 Adding Time

$$\begin{array}{r} 3 \text{ h } 45 \text{ min} \\ + 5 \text{ h } 35 \text{ min} \\ \hline 80 \text{ min} \end{array}$$

$$(45 + 35) \text{ min} = \underline{\hspace{2cm}} \text{ min}$$

$$\begin{array}{r} 3 \text{ h } 45 \text{ min} \\ + 5 \text{ h } 35 \text{ min} \\ \hline 16 \text{ min} \\ \text{20} \end{array}$$

80 min = (60 + 20) min  
= 1 h 20 min

$$\begin{array}{r} 3 \text{ h } 45 \text{ min} \\ + 5 \text{ h } 35 \text{ min} \\ \hline 9 \text{ h } 16 \text{ min} \\ \text{20} \end{array}$$

$$(1 + 3 + 5) \text{ h} = \underline{\hspace{2cm}} \text{ h}$$

Complete the following.

*a*

1. 75 min = 1 h \_\_\_\_\_ min

2. 90 s = 1 min \_\_\_\_\_ s

3. 79 min = 1 h \_\_\_\_\_ min

4. 75 min = 1 h \_\_\_\_\_ min

*b*

73 s = 1 min \_\_\_\_\_ s

71 s = 1 min \_\_\_\_\_ s

100 min = 1 h \_\_\_\_\_ min

95 s = 1 min \_\_\_\_\_ s

Find each sum.

*a*

5. 
$$\begin{array}{r} 7 \text{ min } 1 \text{ s} \\ + 2 \text{ min } 1 \text{ s} \\ \hline \end{array}$$

*b*

$$\begin{array}{r} 3 \text{ min } 14 \text{ s} \\ + 2 \text{ min } 29 \text{ s} \\ \hline \end{array}$$

*c*

$$\begin{array}{r} 3 \text{ h } 1 \text{ min} \\ + 2 \text{ h } 2 \text{ min} \\ \hline \end{array}$$

*d*

$$\begin{array}{r} 7 \text{ h } 20 \text{ min} \\ + 2 \text{ h } 15 \text{ min} \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 3 \text{ h } 4 \text{ min} \\ + 2 \text{ h } 7 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 8 \text{ min } 7 \text{ s} \\ + 2 \text{ min } 3 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 3 \text{ h } 21 \text{ min} \\ + 2 \text{ h } 16 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 5 \text{ h } 30 \text{ min} \\ + 3 \text{ h } 30 \text{ min} \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 3 \text{ h } 40 \text{ min} \\ + 2 \text{ h } 40 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 7 \text{ h } 34 \text{ min} \\ + 5 \text{ h } 49 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 9 \text{ min } 7 \text{ s} \\ + 3 \text{ min } 6 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 5 \text{ h } 32 \text{ min} \\ + 2 \text{ h } 45 \text{ min} \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 3 \text{ h } 35 \text{ min} \\ + 6 \text{ h } 30 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 5 \text{ h } 40 \text{ min} \\ + 1 \text{ h } 25 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 1 \text{ min } 17 \text{ s} \\ + 4 \text{ min } 53 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 3 \text{ h } 30 \text{ min} \\ + 2 \text{ h } 45 \text{ min} \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 9 \text{ min } 35 \text{ s} \\ + 2 \text{ min } 25 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 7 \text{ h } 11 \text{ min} \\ + 1 \text{ h } 49 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 3 \text{ h } 30 \text{ min} \\ + 2 \text{ h } 30 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 9 \text{ min } 20 \text{ s} \\ + 3 \text{ min } 40 \text{ s} \\ \hline \end{array}$$

## Lesson 3 Problem Solving

Solve each problem.

1. The first feature at the Rex Theatre lasts 1 h 45 min. The second lasts 1 h 36 min. The features are shown one after the other. How long will the double feature last?

It will last \_\_\_\_\_ h \_\_\_\_\_ min.

2. Aaron took 3 min 45 s to solve the first part of a puzzle and 6 min 25 min to solve the second part. How long did it take him to solve the whole puzzle?

It took Aaron \_\_\_\_\_ min \_\_\_\_\_ s to solve the whole puzzle.

3. Lee ran the first leg of a two-person relay in 6 min 20 s, and Elmer ran the second leg in 5 min 55 s. How long did it take the boys to run the relay?

It took them \_\_\_\_\_ min \_\_\_\_\_ s.

4. It took Del 1 h 45 min to clean the garage and 4 h 45 min to clean the house. How much time did Del spend cleaning in all?

Del spent \_\_\_\_\_ h \_\_\_\_\_ min cleaning in all.

5. Margaret did the crossword puzzle in 6 min 35 s and the word-search puzzle in 4 min 50 s. How much time did Margaret spend on the two puzzles?

Margaret spent \_\_\_\_\_ min \_\_\_\_\_ s on the puzzles.

6. Mrs. Little took 3 min 30 s to fill her car with gasoline and 2 min 55 s to pay for the gasoline. How long did she spend at the gas station?

Mrs. Little spent \_\_\_\_\_ min \_\_\_\_\_ s at the gas station.

7. Tyler's sister ran the first kilometre of a 2-km race in 4 min 35 s. She ran the second kilometre in 4 min 53 s. What was her time for the race?

Her time was \_\_\_\_\_ min \_\_\_\_\_ s.

1.

2.

3.

4.

5.

6.

7.

## Lesson 4 Subtracting Time

$$\begin{array}{r} \overset{6}{7} \text{ min } \overset{64}{\cancel{4}} \text{ s} \\ - 2 \text{ min } 7 \text{ s} \\ \hline \end{array}$$

7 min 4 s = (6 + 1) min + 4 s  
= 6 min (60 + 4) s  
= 6 min 64 s

$$\begin{array}{r} \overset{6}{7} \text{ min } \overset{64}{\cancel{4}} \text{ s} \\ - 2 \text{ min } 7 \text{ s} \\ \hline 57 \text{ s} \end{array}$$

$$\begin{array}{r} \overset{6}{7} \text{ min } \overset{64}{\cancel{4}} \text{ s} \\ - 2 \text{ min } 7 \text{ s} \\ \hline 4 \text{ min } 57 \text{ s} \end{array}$$

$$(64 - 7) \text{ s} = \underline{\hspace{2cm}} \text{ s} \quad (6 - 2) \text{ min} = \underline{\hspace{2cm}} \text{ min}$$

Complete the following.

*a*

1. 15 min 4 s = 14 min \_\_\_\_\_ s

2. 7 h 2 min = 6 h \_\_\_\_\_ min

3. 5 h 1 min = 4 h \_\_\_\_\_ min

4. 4 h 3 min = 3 h \_\_\_\_\_ min

*b*

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

6 min 2 s = 5 min \_\_\_\_\_ s

2 min 45 s = 1 min \_\_\_\_\_ s

3 h 1 min = 2 h \_\_\_\_\_ min

Find each difference.

*a*

5. 
$$\begin{array}{r} 9 \text{ min } 7 \text{ s} \\ - 3 \text{ min } 6 \text{ s} \\ \hline \end{array}$$

6. 
$$\begin{array}{r} 16 \text{ h } 9 \text{ min} \\ - 9 \text{ h } 9 \text{ min} \\ \hline \end{array}$$

7. 
$$\begin{array}{r} 15 \text{ min } 7 \text{ s} \\ - 12 \text{ min } 9 \text{ s} \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 3 \text{ h } 15 \text{ min} \\ - 1 \text{ h } 30 \text{ min} \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 6 \text{ min } 0 \text{ s} \\ - 2 \text{ min } 51 \text{ s} \\ \hline \end{array}$$

*b*

$$\begin{array}{r} 7 \text{ h } 14 \text{ min} \\ - 3 \text{ h } 9 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 8 \text{ min } 2 \text{ s} \\ - 3 \text{ min } 1 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 2 \text{ h } 1 \text{ min} \\ - 1 \text{ h } 1 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 8 \text{ min } 20 \text{ s} \\ - 5 \text{ min } 40 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 8 \text{ h} \\ - 4 \text{ h } 15 \text{ min} \\ \hline \end{array}$$

*c*

$$\begin{array}{r} 3 \text{ h } 45 \text{ min} \\ - 2 \text{ h } 19 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 6 \text{ h } 1 \text{ min} \\ - 3 \text{ h } 1 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 5 \text{ h } 19 \text{ min} \\ - 3 \text{ h } 45 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 16 \text{ h } 25 \text{ min} \\ - 8 \text{ h } 55 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 8 \text{ min} \\ - 4 \text{ min } 11 \text{ s} \\ \hline \end{array}$$

*d*

$$\begin{array}{r} 5 \text{ min } 3 \text{ s} \\ - 1 \text{ min } 2 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 8 \text{ min } 27 \text{ s} \\ - 5 \text{ min } 16 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 8 \text{ min } 4 \text{ s} \\ - 2 \text{ min } 9 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 9 \text{ min } 6 \text{ s} \\ - 2 \text{ min } 8 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 7 \text{ h} \\ - 2 \text{ h } 30 \text{ min} \\ \hline \end{array}$$

## Lesson 4 Problem Solving

Solve each problem.

1. A frozen ham took 7 h 30 min to thaw in the fridge, and a small frozen turkey took 16 h 15 min. How much longer did the turkey take to thaw than the ham?

The turkey took \_\_\_\_\_ h \_\_\_\_\_ min longer to thaw.

2. The first game of a doubleheader lasted 2 h 48 min. The second game lasted 3 h 19 min. How much longer did the second game last than the first?

The second game lasted \_\_\_\_\_ min longer.

3. Abby ran four laps of the track in 4 min 45 s. Renée ran four laps in 5 min 10 s. How much longer did it take Renée to run the four laps?

It took Renée \_\_\_\_\_ min \_\_\_\_\_ s longer.

4. Of Heather's 9-h workday, 5 h 45 min were spent packing crates. How much time did she have left for other tasks?

She had \_\_\_\_\_ h \_\_\_\_\_ min left.

5. It took Sonya 4 h 30 min to paint the living room and 1 h 45 min to paint the bathroom. How long did she paint in all?

She painted for \_\_\_\_\_ h \_\_\_\_\_ min.

6. The Ace Factory operates 3 h 30 min in the morning and 4 h 15 min in the afternoon. How much longer does the factory operate in the afternoon than in the morning?

It operates \_\_\_\_\_ min longer in the afternoon.

7. Katie took 4 min 35 s to run 1 km. Her boyfriend took 5 min 45 s to run 1 km. How much longer did Katie's boyfriend take to run 1 km?

It took Katie's boyfriend \_\_\_\_\_ h \_\_\_\_\_ min longer.

1.

2.

3.

4.

5.

6.

7.



## Lesson 5 Multiplying Measures

$$\begin{array}{r} 3 \text{ h } 25 \text{ min} \\ \times 4 \\ \hline 100 \text{ min} \end{array}$$

$$\begin{array}{r} 3 \text{ h } 25 \text{ min} \\ \times 4 \\ \hline 100 \text{ min} \\ \leftarrow 40 \end{array}$$

$$\begin{array}{r} 3 \text{ h } 25 \text{ min} \\ \times 4 \\ \hline 13 \text{ h } 100 \text{ min} \\ \leftarrow 40 \end{array}$$

$$(4 \times 25) \text{ min} = \underline{\quad} \text{ min} \quad | \quad 100 \text{ min} = \underline{\quad} \text{ h } \underline{\quad} \text{ min} \quad | \quad [(4 \times 3) + 1] \text{ h} = \underline{\quad} \text{ h}$$

Find each product.

*a*

$$1. \quad \begin{array}{r} 4 \text{ cm} \\ \times 4 \\ \hline \end{array}$$

*b*

$$\begin{array}{r} 3 \text{ min } 12 \text{ s} \\ \times 4 \\ \hline \end{array}$$

*c*

$$\begin{array}{r} 3 \text{ kL} \\ \times 3 \\ \hline \end{array}$$

$$2. \quad \begin{array}{r} 3 \text{ h } 20 \text{ min} \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \text{ kg} \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \text{ m} \\ \times 2 \\ \hline \end{array}$$

$$3. \quad \begin{array}{r} 55 \text{ cm} \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 65 \text{ L} \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2.5 \text{ kg} \\ \times 6 \\ \hline \end{array}$$

$$4. \quad \begin{array}{r} 37 \text{ g} \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 106 \text{ m} \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \text{ min } 36 \text{ s} \\ \times 5 \\ \hline \end{array}$$

$$5. \quad \begin{array}{r} 3 \text{ m} \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \text{ min } 20 \text{ s} \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 300 \text{ mg} \\ \times 3 \\ \hline \end{array}$$

$$6. \quad \begin{array}{r} 2 \text{ kg} \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \text{ h } 10 \text{ min} \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 60 \text{ L} \\ \times 3 \\ \hline \end{array}$$

$$7. \quad \begin{array}{r} 2.5 \text{ km} \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 4.5 \text{ m} \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7.1 \text{ kg} \\ \times 9 \\ \hline \end{array}$$

## Lesson 5 Problem Solving

Solve each problem.

1. Six tables are to be placed end to end. Each table is 128 cm. What will be the total length of the tables?

The total length will be \_\_\_\_\_ cm.

2. It takes 2 min 15 s to assemble a doodad. How long will it take to assemble three doodads?

It will take \_\_\_\_\_ min \_\_\_\_\_ s.

3. Each doodad has a mass of 1.6 kg. There are six doodads in each case. How much will the mass of the doodads in a case be?

They will have a mass of \_\_\_\_\_ kg.

4. A laundry purchased five large bottles of detergent. Each bottle contained 2 L. How much detergent was purchased?

\_\_\_\_\_ L of detergent were purchased.

5. Mr. Mitchell purchased eight boards. Each board was 2.5 m long. What was the total length of the boards he purchased?

The total length was \_\_\_\_\_ m.

6. Nine cases of art supplies are to be shipped. Each case has a mass of 4 kg. How much will the mass of the shipment be?

It will have a mass of \_\_\_\_\_ kg.

7. Each shift at the Kempf Factory lasts 7 h 30 min. There are nine shifts each week. How long does the factory operate each week?

The factory operates \_\_\_\_\_ h \_\_\_\_\_ min each week.

1.

2.

3.

4.

5.

6.

7.

# Lesson 6 Measurement

Complete the following.

*a*

1. 2 h = \_\_\_\_\_ min

2. 5 kg = \_\_\_\_\_ g

3. 700 L = \_\_\_\_\_ kL

4. 70 mm = \_\_\_\_\_ cm

5. 240 s = \_\_\_\_\_ min

*b*

3 cm = \_\_\_\_\_ mm

2 kg = \_\_\_\_\_ g

3 min 38 s = \_\_\_\_\_ s

4 L = \_\_\_\_\_ mL

5 m = \_\_\_\_\_ cm

Add, subtract, or multiply.

*a*

$$\begin{array}{r} 6. \quad 3 \text{ h } 7 \text{ min} \\ + 5 \text{ h } 4 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 16 \text{ h } 25 \text{ min} \\ + 4 \text{ h } 35 \text{ min} \\ \hline \end{array}$$

*b*

$$\begin{array}{r} 4 \text{ min } 14 \text{ s} \\ - 2 \text{ min } 7 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 6.2 \text{ cm} \\ \times 5 \\ \hline \end{array}$$

*c*

$$\begin{array}{r} 7.2 \text{ L} \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \text{ h} \\ - 2 \text{ h } 3 \text{ min} \\ \hline \end{array}$$

Solve each of the following.

8. Freda slept for 8 h 30 min last night. Francis slept for 11 h 15 min last night. How much longer did Francis sleep than Freda?

Francis slept for \_\_\_\_\_ h \_\_\_\_\_ min longer than Freda.

9. It is 112 m from home plate to the right-field fence at the foul pole. What is this distance in centimetres?

It is \_\_\_\_\_ cm.

8.

9.

**Lesson 7 Rounding Numbers***Round 32 to the nearest ten.*32 is nearer 30 than 40.  
32 rounded to the nearestten is 30.*Round 75 to the nearest ten.*75 is as near 70 as 80.  
In such cases, use the  
*greater multiple* of ten.  
75 rounded to the nearestten is 80.*Round 4769 to the nearest hundred.*4769 is nearer 4800 than 4700.  
4769 rounded to the nearest hundred

is \_\_\_\_\_.

*Round 4500 to the nearest thousand.*4500 is as near 4000 as 5000.  
In such cases, use the *greater*  
*multiple* of one thousand.  
4500 rounded to the nearest

thousand is \_\_\_\_\_.

**Round to the nearest ten.***a*

1. 28 \_\_\_\_\_

2. 244 \_\_\_\_\_

3. 1696 \_\_\_\_\_

*b*

73 \_\_\_\_\_

477 \_\_\_\_\_

2792 \_\_\_\_\_

*c*

85 \_\_\_\_\_

655 \_\_\_\_\_

8245 \_\_\_\_\_

**Round to the nearest hundred.**

4. 321 \_\_\_\_\_

5. 1459 \_\_\_\_\_

6. 24 136 \_\_\_\_\_

479 \_\_\_\_\_

2628 \_\_\_\_\_

35 282 \_\_\_\_\_

550 \_\_\_\_\_

1650 \_\_\_\_\_

47 350 \_\_\_\_\_

**Round to the nearest thousand.**

7. 4325 \_\_\_\_\_

8. 5943 \_\_\_\_\_

9. 16 482 \_\_\_\_\_

6782 \_\_\_\_\_

8399 \_\_\_\_\_

27 501 \_\_\_\_\_

7500 \_\_\_\_\_

8500 \_\_\_\_\_

43 500 \_\_\_\_\_

# Lesson 8 Estimating Sums and Differences

Estimate the sum  
of 744 and 378.

	<i>estimated sum</i>	<i>actual sum</i>
744 — to the nearest hundred →	700	744
<u>+378</u> — to the nearest hundred →	<u>+400</u>	<u>+378</u>
	1100	1122

To estimate the sum of 6375 and 8678, round 6375 to \_\_\_\_\_ and 8678 to \_\_\_\_\_.

The estimated sum would be 6000 + 9000 or \_\_\_\_\_.

Estimate the difference  
between 6232 and 2948.

	<i>estimated difference</i>	<i>actual difference</i>
6232 — to the nearest thousand →	6000	6232
<u>-2948</u> — to the nearest thousand →	<u>-3000</u>	<u>-2948</u>
	3000	3284

To estimate the difference between 38 735 and 12 675, round 38 735 to \_\_\_\_\_ and 12 675 to \_\_\_\_\_. The estimated difference would be 40 000 - 10 000 or \_\_\_\_\_.

Estimate each sum or difference. Then find each sum or difference.

	<i>a</i> <i>estimate</i>	<i>b</i> <i>estimate</i>	<i>c</i> <i>estimate</i>
1.	$\begin{array}{r} 739 \\ +435 \\ \hline \end{array}$	$\begin{array}{r} 678 \\ -245 \\ \hline \end{array}$	$\begin{array}{r} 743 \\ +825 \\ \hline \end{array}$
2.	$\begin{array}{r} 7254 \\ -1326 \\ \hline \end{array}$	$\begin{array}{r} 1375 \\ +6427 \\ \hline \end{array}$	$\begin{array}{r} 2795 \\ -1246 \\ \hline \end{array}$
3.	$\begin{array}{r} 7524 \\ +3542 \\ \hline \end{array}$	$\begin{array}{r} 6852 \\ -4526 \\ \hline \end{array}$	$\begin{array}{r} 7689 \\ +3824 \\ \hline \end{array}$
4.	$\begin{array}{r} 25\ 243 \\ -12\ 675 \\ \hline \end{array}$	$\begin{array}{r} 76\ 425 \\ +23\ 142 \\ \hline \end{array}$	$\begin{array}{r} 95\ 245 \\ -58\ 624 \\ \hline \end{array}$

# Lesson 9 Estimating Products

Study how to estimate the product of 187 and 63.

	<i>estimated product</i>	<i>actual product</i>
187 — to the nearest hundred —>	200	187
<u>×63</u> — to the nearest ten —>	<u>×60</u>	<u>×63</u>
	12 000	561
		<u>11 220</u>
		11 781

To estimate  $86 \times 224$ , round 86 to \_\_\_\_\_ and 224 to \_\_\_\_\_.

The estimated product would be  $90 \times 200$  or \_\_\_\_\_.

Write the estimated product on each \_\_\_\_\_. Then find each product.

	<i>a</i>	<i>b</i>	<i>c</i>
<b>1.</b>	$\begin{array}{r} 72 \\ \times 38 \\ \hline \end{array}$ _____	$\begin{array}{r} 91 \\ \times 57 \\ \hline \end{array}$ _____	$\begin{array}{r} 55 \\ \times 65 \\ \hline \end{array}$ _____
<b>2.</b>	$\begin{array}{r} 69 \\ \times 48 \\ \hline \end{array}$ _____	$\begin{array}{r} 56 \\ \times 78 \\ \hline \end{array}$ _____	$\begin{array}{r} 75 \\ \times 66 \\ \hline \end{array}$ _____
<b>3.</b>	$\begin{array}{r} 84 \\ \times 63 \\ \hline \end{array}$ _____	$\begin{array}{r} 93 \\ \times 43 \\ \hline \end{array}$ _____	$\begin{array}{r} 74 \\ \times 45 \\ \hline \end{array}$ _____
<b>4.</b>	$\begin{array}{r} 125 \\ \times 78 \\ \hline \end{array}$ _____	$\begin{array}{r} 469 \\ \times 36 \\ \hline \end{array}$ _____	$\begin{array}{r} 724 \\ \times 63 \\ \hline \end{array}$ _____
<b>5.</b>	$\begin{array}{r} 427 \\ \times 43 \\ \hline \end{array}$ _____	$\begin{array}{r} 825 \\ \times 73 \\ \hline \end{array}$ _____	$\begin{array}{r} 974 \\ \times 47 \\ \hline \end{array}$ _____

# CHAPTER 8 PRACTICE TEST

## More Metric Measurement and Estimation

Complete the following.

*a*

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

2.  $90 \text{ min} = \underline{\hspace{2cm}} \text{ h}$

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

4.  $96 \text{ h} = \underline{\hspace{2cm}} \text{ days}$

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

*b*

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

$4 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$

$2 \text{ h } 27 \text{ min} = \underline{\hspace{2cm}} \text{ min}$

$3 \text{ cm} = \underline{\hspace{2cm}} \text{ mm}$

$3 \text{ L} = \underline{\hspace{2cm}} \text{ mL}$

Add, subtract, or multiply.

$$\begin{array}{r} 6. \quad 3 \text{ min } 6 \text{ s} \\ + 2 \text{ min } 8 \text{ s} \\ \hline \end{array}$$

$$\begin{array}{r} 8 \text{ h } 6 \text{ min} \\ - 2 \text{ h } 4 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 2 \text{ min } 14 \text{ s} \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 6 \text{ h } 30 \text{ min} \\ - 4 \text{ h } 45 \text{ min} \\ \hline \end{array}$$

$$\begin{array}{r} 3.3 \text{ m} \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \text{ h } 50 \text{ min} \\ + 2 \text{ h } 48 \text{ min} \\ \hline \end{array}$$

Round as indicated.

*a**nearest ten*

8. 4773           

9. 63 575           

*b**nearest hundred*

*c**nearest thousand*

Write an estimate for each exercise. Then find the answer.

$$\begin{array}{r} 10. \quad 7129 \\ + 4516 \\ \hline \end{array}$$

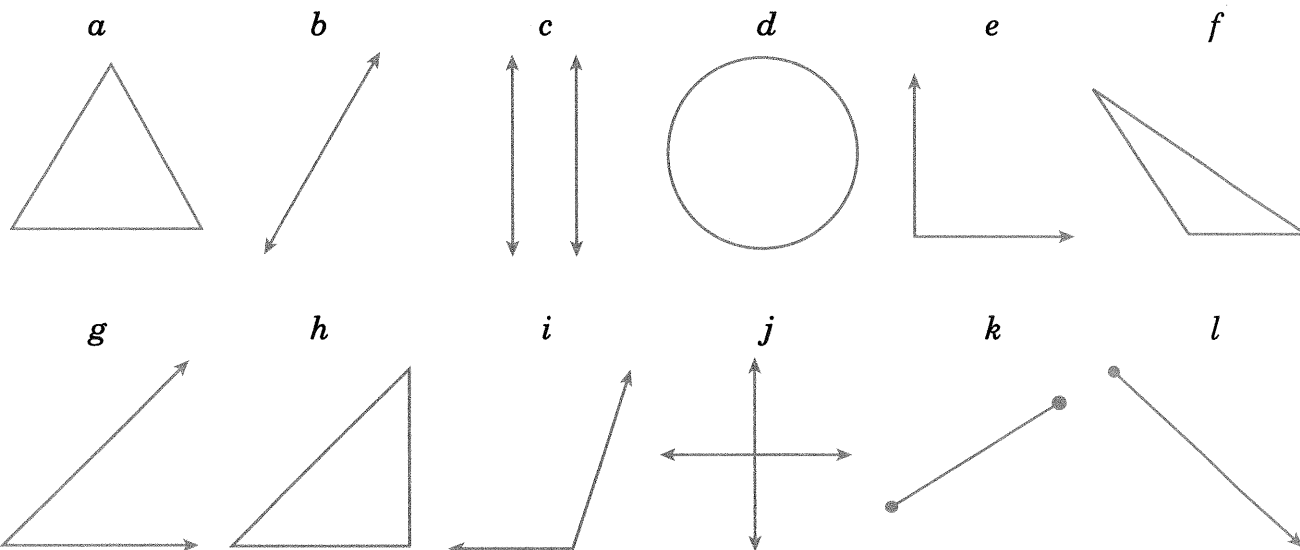
$$\begin{array}{r} 9046 \\ - 3978 \\ \hline \end{array}$$

$$\begin{array}{r} 296 \\ \times 78 \\ \hline \end{array}$$

# CHAPTER 9 PRETEST

## Geometry

NAME \_\_\_\_\_



On the \_\_\_\_\_ before each name below, write the letter(s) of the figure(s) it describes above.

- | <i>a</i>             | <i>b</i>             | <i>c</i>                   |
|----------------------|----------------------|----------------------------|
| 1. _____ ray         | _____ line segment   | _____ isosceles triangle   |
| 2. _____ line        | _____ obtuse angle   | _____ obtuse triangle      |
| 3. _____ circle      | _____ right triangle | _____ perpendicular lines  |
| 4. _____ acute angle | _____ parallel lines | _____ equilateral triangle |
| 5. _____ right angle | _____ acute triangle | _____ scalene triangle     |

Use a protractor to find the measure of each angle below.

