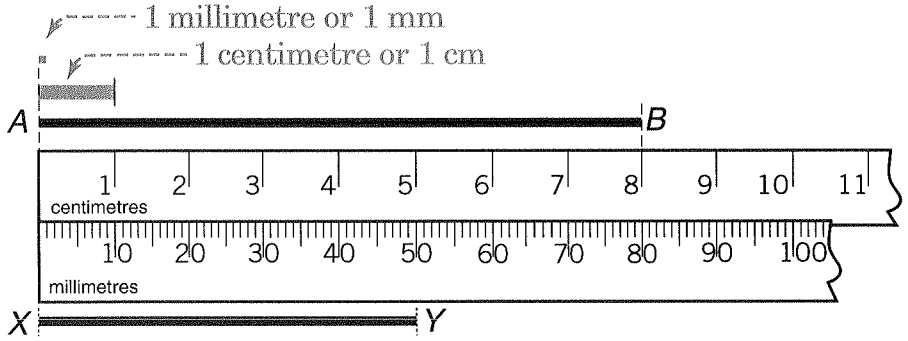
NAME _____

Lesson 1 Centimetre and Millimetre



Line segment *AB* is 8 cm long. *XY* is _____ cm long.

Line segment *AB* is 80 mm long. *XY* is _____ mm long.

Find the length of each line segment to the nearest centimetre.
Then find the length of each line segment to the nearest millimetre.

	a	*b*	
1.	_____ cm	_____ mm	
2.	_____ cm	_____ mm	
3.	_____ cm	_____ mm	
4.	_____ cm	_____ mm	

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

5. _____ mm

6. _____ mm

7. _____ mm

8. _____ mm

Draw a line segment for each measurement.

9. 6 cm

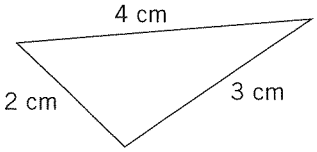
10. 45 mm

CHAPTER 8

NAME _____

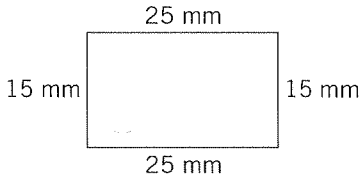
Lesson 2 Perimeter

The distance around a figure is called its **perimeter.**



2
3
+4
9

perimeter: 9 cm



25
15
25
+15
80

or

25
+15
40
×2
80

perimeter: 80 mm

Measure each side in centimetres. Then find the perimeter of each figure.

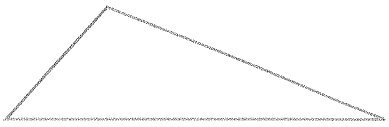
a *b*

1. _____ cm

_____ cm

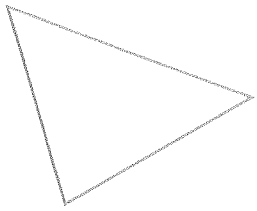
2. _____ cm

_____ cm



Measure each side in millimetres. Then find the perimeter of each figure.

3. _____ mm

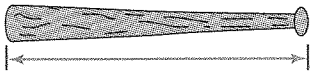


_____ mm

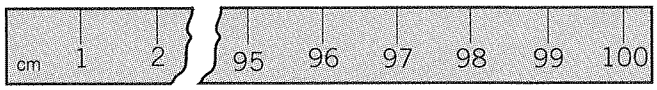
NAME _____

Lesson 3 Metre and Kilometre

A baseball bat is about **1 m** long.



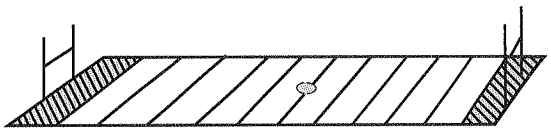
1 metre (m) or 100 cm



1 m = 100 cm
1 cm = 0.01 m

If you run from goal line to goal line on a football field **10** times, you will run about **1 km.**

1000 m is the same distance as 1 kilometre (km).



1 km = 1000 m
1 m = 0.001 km

Use a metre stick to find the following to the nearest metre.

	a	*b*
1.	length of your room _____ m	width of a door _____ m
2.	width of your room _____ m	width of a window_____ m
3.	height of a door _____ m	height of a window _____ m

Answer each question.

4. Michelle's height is 105 cm. Is she taller or shorter than 1 m?

She is _____ than 1 m. **4.**

5. Are you taller or shorter than 1 m?

I am _____ than 1 m. **5.**

6. Roberta wants to swim 1 km. How many metres should she swim?

She should swim _____ m. **6.**

7. Sung-Chi ran 1500 m. Leona ran 1 km. Who ran farther? How much farther?

_____ ran _____ m farther. **7.**

CHAPTER 8

NAME _____

Lesson 4 Units of Length

Study how to change from one metric unit to another.

9 km = ___?___ m	850 mm = ___?___ cm
1 km = 1000 m	10 mm = 1 cm
9 km = (9 × 1000) m	850 mm = (850 ÷ 10) cm
9 km = 9000 m	850 mm = 85 cm

Complete the following.

	a	*b*
1.	50 km = _____ m	600 cm = _____ m
2.	70 mm = _____ cm	2000 mm = _____ m
3.	9 cm = _____ mm	8000 m = _____ km
4.	3 m = _____ cm	5000 cm = _____ m

5. Ted is 4000 m from school. Susan is 3 km from school. How many metres from school is Susan? Who is farther from school? How much farther?

5.

Susan is _____ m from school.

_____ is _____ m farther from school.

6. Maria is 134 cm tall. Su-Lyn is 1300 mm tall. Charles is 141 cm tall. Who is tallest? Who is shortest?

6.

_____ is tallest.

_____ is shortest.

7. What is your height in centimetres? In millimetres?

7.

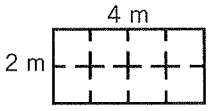
I am _____ cm tall.

I am _____ mm tall.

NAME _____

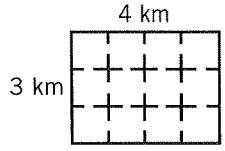
Lesson 5 Area

To find the **area** of a rectangle, multiply the measure of its length by the measure of its width.



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

area: 8 square metres (m^2)



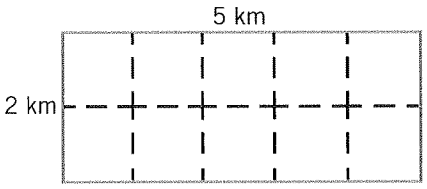
$$\begin{array}{r} 4 \\ \times 3 \\ \hline 12 \end{array}$$

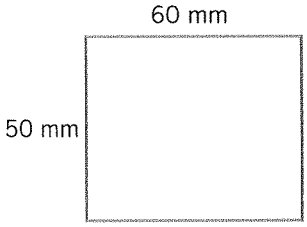
area: 12 square kilometres (km^2)

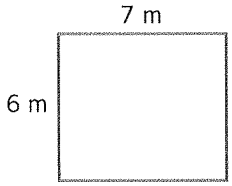
Find the area of each rectangle.

a *b* *c*

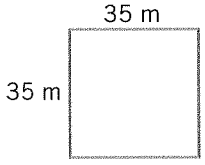
1. _____ km^2 _____ square millimetres (mm^2) _____ m^2

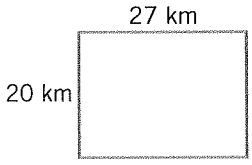


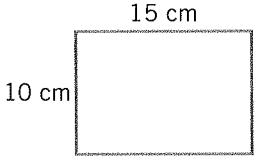




2. _____ m^2 _____ km^2 _____ square centimetres (cm^2)







	Length	*Width*	*Area*
3.	9 km	6 km	_____ km^2
4.	18 cm	7 cm	_____ cm^2
5.	14 m	10 m	_____ m^2
6.	175 mm	25 mm	_____ mm^2
7.	152 cm	100 cm	_____ cm^2

CHAPTER 8

Lesson 5 Problem Solving

Solve each problem.

1. Find a rectangular room. Measure its length and width to the nearest metre. Find the perimeter of the room. Find the area of the room.

length: _____ m

width: _____ m

perimeter: _____ m

area: _____ m^2

1.

2. Find a rectangular tabletop or desk. Measure its length and width to the nearest metre. Find the perimeter of the top. Find the area of the top.

length: _____ m

width: _____ m

perimeter: _____ m

area: _____ m^2

2.

3. Use the front cover of this book. Measure its length and width to the nearest centimetre. Find the perimeter of the cover. Find the area of the front cover.

perimeter: _____ cm

area: _____ cm^2

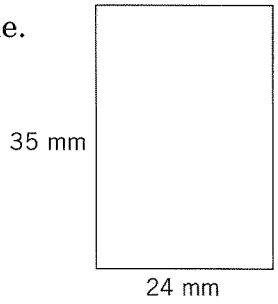
3.

4. Use the rectangle at the right. Find the perimeter of the rectangle. Find the area of the rectangle.

perimeter: _____ mm

area: _____ mm^2

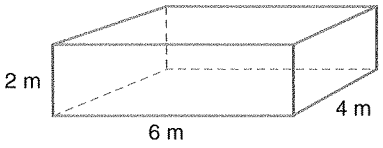
4.



NAME _____

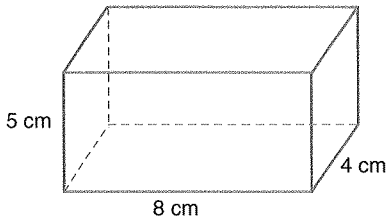
Lesson 6 Volume

To find the **volume** of a rectangular solid, multiply the measure of its length by the measure of its width by the measure of its height.



$$\begin{array}{r} 6 \\ \times 4 \\ \hline 24 \\ \times 2 \\ \hline 48 \end{array}$$

volume: 48 m^3



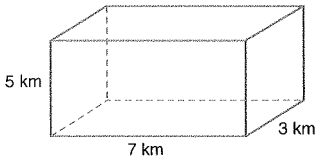
$$\begin{array}{r} 8 \\ \times 4 \\ \hline 32 \\ \times 5 \\ \hline 160 \end{array}$$

volume: 160 cm^3

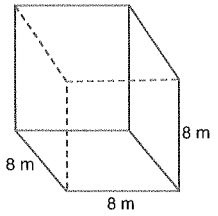
Find the volume of each rectangle.

a *b* *c*

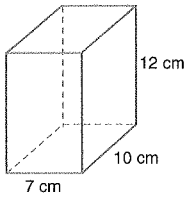
1.



_____ km^3

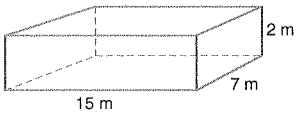


_____ m^3

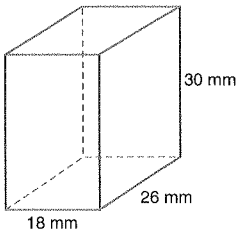


_____ cm^3

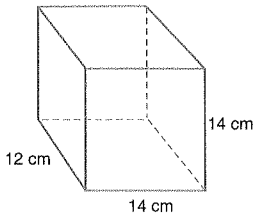
2.



_____ m^3



_____ mm^3



_____ cm^3

	Length	*Width*	*Height*	*Volume*
3.	5 m	6 m	7 m	_____ m^3
4.	9 km	3 km	8 km	_____ km^3
5.	10 cm	13 cm	6 cm	_____ cm^3
6.	26 mm	32 mm	15 mm	_____ mm^3

CHAPTER 8

Lesson 6 Problem Solving

Solve each problem.

1. A swimming pool has a length of 7 m, a width of 4 m, and a depth of 2 m. What is the volume of the swimming pool?

The volume of the swimming pool is _____ m^3.

1.

2. A box of cereal has a length of 21 cm, a width of 6 cm, and a height of 30 cm. What is the volume of the cereal box?

The volume of the cereal box is _____ cm^3.

2.

3. A shoebox has a length of 28 cm, a width of 20 cm, and a height of 14 cm. What is the volume of the shoebox?

The volume of the shoebox is _____ cm^3.

3.

4. A fish aquarium has a length of 36 cm, a width of 18 cm, and a height of 20 cm. What is the volume of the fish aquarium?

The volume of the fish aquarium is _____ cm^3.

4.

5. Find a shoebox that is a rectangular prism. Measure its length, width, and height. Find the volume of the shoebox.

length: _____

width: _____

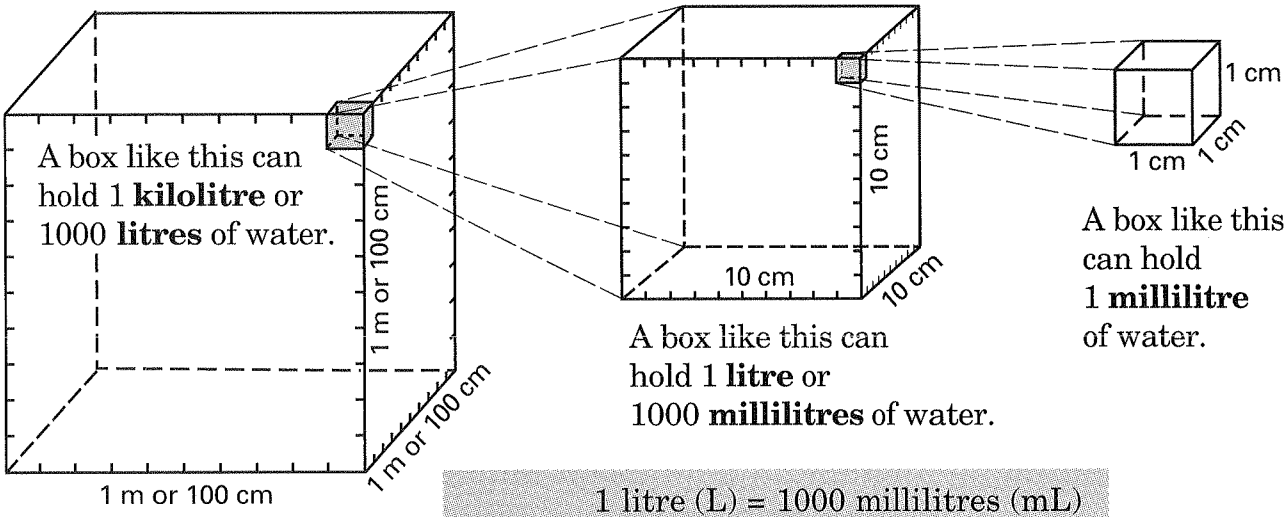
height: _____

volume: _____

5.

NAME _____

Lesson 7 Capacity



1 litre (L) = 1000 millilitres (mL)
1 kilolitre (kL) = 1000 L

Solve each problem.

1. A teaspoon holds about 5 mL. A recipe calls for 2 teaspoons of vanilla. How many millilitres is that?

That is _____ mL.

1.

2. A litre is slightly more than 4 cups. Do you drink more or less than a litre of milk every day?

I drink _____ than a litre every day.

2.

3. To make punch, 8 cups of fruit juice are used. About how many litres would that be?

That would be _____ L.

3.

4. Two bathtubs filled with water would be about 1 kL of water. Suppose your family uses 10 tubfuls of water a week. How many kilolitres of water would be used in a week?

_____ kL would be used in a week.

4.

5. A tank holds 1000 L. How many kilolitres would it hold?

It would hold _____ kL.

5.

NAME _____

Lesson 8 Units of Capacity

19 L = ? mL

1 L = 1000 mL

19 L = (19 × 1000) mL

19 L = 19 000 mL

7000 L = ? kL

1000 L = 1 kL

7000 L = (7000 ÷ 1000) kL

7000 L = 7 kL

Complete the following.

	a	*b*
1.	7 L = _____ mL	3000 mL = _____ L
2.	2 kL = _____ L	9000 L = _____ kL
3.	20 L = _____ mL	48 kL = _____ L
4.	4000 mL = _____ L	5000 L = _____ kL

5. Lisa filled an ice-cube tray with water. Do you think she used about 1 mL, 1 L, or 1 kL of water?

She used 1 _____ of water.

5.

6. Carlos said he drank 500 mL of milk. Larry said he drank 1 L of milk. Who drank more milk? How many millilitres more?

_____ drank _____ mL more milk.

6.

7. The gasoline tank on Mrs. Mohr's truck holds 85 L. It took 27 L of fuel to fill the tank. How much fuel was in the tank before it was filled?

_____ L were in the tank.

7.

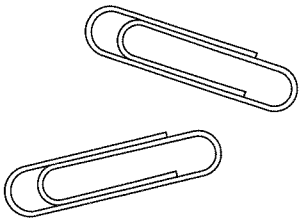
8. A tank can hold 4000 L of water. There are 3 kL of water in the tank. How many litres of water are needed to fill the tank?

_____ L are needed.

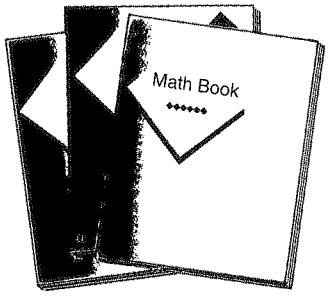
8.

NAME _____

Lesson 9 Mass



2 paper clips have a mass of about 1 **gram** (g).



3 math books like yours have a mass of about 1 **kilogram** (kg).

1 g = 1000 milligrams (mg)
1000 g = 1 kg

Complete the following.

1. About what is the mass of four paper clips?

Their mass is about _____ g.

1.

2. A box contains 4000 paper clips. What is the mass of those paper clips?

Their mass is _____ kg.

2.

3. One nickel has a mass of about 5 g. A roll of 40 nickels would have a mass of about how many grams?

It would have a mass of _____ g.

3.

4. What is the mass of six math books like yours?

Their mass is _____ kg.

4.

5. A doctor has 3000 milligrams of medicine. How many grams is that?

That is _____ g.

5.

6. A dog has a mass of 17 000 grams. How many kilograms is that?

That is _____ kg.

6.

CHAPTER 8

NAME _____

Lesson 10 Units of Mass

6 kg = ? g

1 kg = 1000 g

6 kg = (6 × 1000) g

6 kg = 6000 g

5000 mg = ? g

1000 mg = 1 g

5000 mg = (5000 ÷ 1000) g

5000 mg = 5 g

Complete the following.

	a	*b*
1.	2 kg = _____ g	6 g = _____ mg
2.	9 g = _____ mg	9 kg = _____ g
3.	2000 mg = _____ g	7000 g = _____ kg
4.	3000 g = _____ kg	8000 mg = _____ g

5. A penny has a mass of about 3 g. A dime has a mass of about 2000 mg. Which has the greater mass? How much greater?

A _____ has a mass of about _____ mg more.

5.

6. Emily uses a 4-kg bowling ball. Her father uses a 7-kg bowling ball. How much heavier is her father's bowling ball?

It is _____ kg heavier.

6.

7. A loaf of bread has a mass of 454 grams. What is the mass of 3 loaves of bread?

Their mass is _____ g.

7.

8. John's mass is 34 000 grams. Judy's mass is 39 kg. Whose mass is more? How much more?

_____'s mass is _____ kg more.

8.

NAME _____

CHAPTER 8 PRACTICE TEST

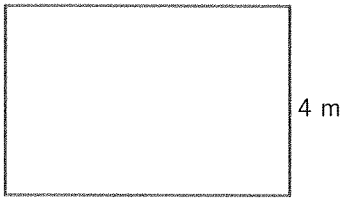
Find the length of each line segment to the nearest centimetre.
Then find the length of each line segment to the nearest millimetre.

	a	*b*	
1.	_____ cm	_____ mm	
2.	_____ cm	_____ mm	

Find the perimeter and the area of each rectangle.

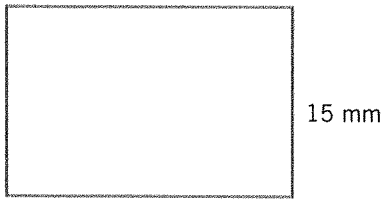
3. *perimeter:* _____ m

area: _____ m^2



4. *perimeter:* _____ mm

area: _____ mm^2



Find the volume.

	Length	*Width*	*Height*	*Volume*
5.	9 cm	12 cm	6 cm	_____ cm^3
6.	2 m	7 m	36 m	_____ m^3

Complete the following.

	a	*b*
7.	5 cm = _____ mm	2000 m = _____ km
8.	700 cm = _____ m	300 mm = _____ cm
9.	6 km = _____ m	3 m = _____ cm
10.	4 kL = _____ L	3000 mL = _____ L

NAME _____

CHAPTER 9 PRETEST
More Metric Measurement

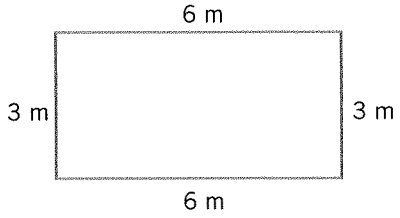
Complete.

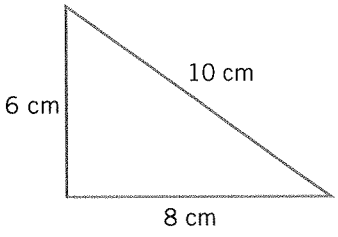
	a	*b*
1.	4 m = _____ cm	5 m = _____ cm
2.	200 cm = _____ m	6 km = _____ m
3.	5 km = _____ m	3 m = _____ mm
4.	1 km = _____ m	20 m = _____ cm
5.	6000 mL = _____ L	3 L = _____ mL
6.	5000 L = _____ kL	10 L = _____ mL
7.	1000 g = _____ kg	3 kg = _____ g

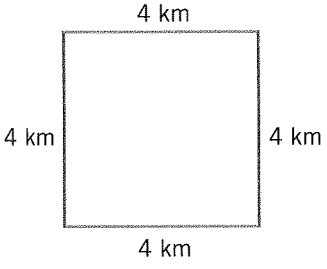
CHAPTER 9

Find the perimeter of each figure.

a	*b*	*c*
8. _____ m	_____ cm	_____ km







Find the area of each rectangle.

9.	_____ m^2	_____ cm^2	_____ mm^2