

**Practice**

1. Sean buys 8 DVDs for \$120.  
Each DVD costs the same amount.
  - a) How much does 1 DVD cost?
  - b) How much do 13 DVDs cost?
2. Ioana works for 4 days and earns \$224. At this rate:
  - a) How much does she earn in 1 day?
  - b) How much does she earn in 11 days?
3. Mika worked 6 shifts and earned \$720.  
She earns the same amount for each shift.  
How much money would she earn in 4 shifts?
4. Zeljko purchased 4 cases of pop for \$26.
  - a) How many cases could he buy for \$91? Explain.
  - b) How could you have solved the problem a different way?
5. A car travels 96 km on 8 L of gasoline.
  - a) How far will the car travel on 25 L of gasoline?
  - b) How much gasoline is needed to travel 120 km?  
Show your work.
6. A machine can bind 1000 books in 8 min.
  - a) How many books can the machine bind in 1 h?
  - b) How long will it take to bind 7250 books? Explain.

We use proportional reasoning when we use a map to determine distances.

**Example**

The driving distance from Sault Ste. Marie to North Bay is about 425 km.

On a map, this distance is 8.5 cm.

On the same map, the distance from North Bay to Windsor is 13.5 cm.

What is the actual distance between these cities?

**Solution**

8.5 cm represents 425 km.

So, 1 cm represents:  $\frac{425}{8.5}$  km = 50 km

Then, 13.5 cm represents:  $13.5 \times 50$  km = 675 km

The actual distance from North Bay to Windsor is about 675 km.

- 7.** Madurodam is a miniature city in the Netherlands. Every object in the city is built to the same scale. A lamppost in Madurodam is 12 cm tall. It is modelled after an actual lamppost that is 3 m tall.
- A bridge that crosses the canal in Madurodam is 30 cm long. How long is the actual bridge that was used as the model?
  - A clock tower is to be built in Madurodam. It is modelled after a clock tower that is 25 m tall. How tall should the miniature tower be?
  - Explain how you solved each problem.



- 8.** Chloë challenged her father to a basketball game. Each person gets a different number of points for scoring a basket.
- Chloë scored 12 baskets and has 36 points. How many points would she get if she scored 15 baskets?
  - Her father scored 16 baskets and has 32 points. How many points would he get if he scored 19 baskets?
  - Their total score at the end of the game is 95 points. How many baskets did each person score?
- 9. Assessment Focus** Imran is visiting his grandmother in the United States. He can exchange \$20 Canadian for \$17 US.
- How many US dollars would Imran get for \$225 Canadian?
  - When Imran returns, he has \$10 US. How much is this in Canadian dollars? What assumptions did you make?
- 10. Take It Further** A recipe for pancakes calls for 2 cups flour mixed with  $1\frac{1}{2}$  cups buttermilk. Liisa mixes 5 cups flour with  $2\frac{1}{2}$  cups buttermilk. Will Liisa's pancake mix be too dry, too watery, or just right? How do you know?

### In Your Own Words

You have learned several strategies to solve proportional reasoning problems. Choose one strategy. Explain when you would use it. Include an example of a problem.