# **LESSON** Proportional Relationships

## Reading Strategies: Multiple Meanings

A person can go by different names. Timothy could also be called Tim or Timmy.

A number can have different names too. The columns below show different names for 0.4. → Read: "four tenths."

### Decimal Form

cimal Form Fraction Form 
$$0.4 \longrightarrow \frac{4}{10} \longrightarrow$$

To find the percent form of a fraction or decimal number, write an equivalent fraction with a denominator of 100.

$$\frac{4}{10} = \frac{40}{100}$$

A fraction with a denominator of 100 can be written as a percent.  $\longrightarrow \frac{4}{10} \longrightarrow$ 40%

Use 0.37 to complete Exercises 1–3.

- 1. Write the words for 0.37.
- 2. Write 0.37 as a fraction.
- 3. Write 0.37 as a percent.

Use  $\frac{60}{100}$  to complete Exercises 4–7.

- 4. How would you read  $\frac{60}{100}$ ?
- 5. Write  $\frac{60}{100}$  as a decimal.
- 6. Write  $\frac{60}{100}$  as a percent.

# **Proportional Relationships**

### **Problem Solving: Percents, Decimals, and Fractions**

### Write the correct answer.

- 1. Deserts cover about  $\frac{1}{7}$  of all the land on Earth. About what percent of Earth's land is made up of deserts?
- 3. Cactus plants survive in deserts by storing water in their thick stems. In fact, water makes up  $\frac{3}{4}$  of the saguaro cactus's total weight. What percent of its weight is water?
- 2. The Sahara is the largest desert in the world. It covers about 3% of the total area of Africa. What decimal expresses this percent?
- 4. Daytime temperatures in the Sahara can reach 130°F! At night, however, the temperature can drop by 62%. What decimal expresses this percent?

### Circle the letter of the correct answer.

- 5. The desert nation of Saudi Arabia is the world's largest oil producer. About  $\frac{1}{4}$  of all the oil imported to the United States is shipped from Saudi Arabia. What percent of our nation's oil is that?
  - A 20%
  - B 22%
  - C 25%
  - D 40%
- 7. About  $\frac{3}{25}$  of all the freshwater in the United States is used for drinking, washing, and other domestic purposes. What percent of our fresh water resources is that?
  - A 3%
  - B 25%
  - 12% C

- 6. About  $\frac{2}{5}$  of all the food produced on Earth is grown on irrigated cropland. What percent of the world's food production relies on irrigation? What is the percent written as a decimal?
  - F 40%; 40.0
  - G 40%; 4.0
  - H 40%: 0.4
  - J 40%; 0.04
- 8. Factories and other industrial users account for about  $\frac{23}{50}$  of the total water usage in the United States. Which of the following show that amount as a percent and decimal?
  - F 46% and 0.46
  - G 23% and 0.23
  - H 50% and 0.5
  - J 46% and 4.6