

Lesson 1 Reteach

Rates

A ratio that compares two quantities with different kinds of units is called a **rate**. When a rate is simplified so that it has a denominator of 1 unit, it is called a **unit rate**.

Example 1

DRIVING Alita drove her car 78 miles and used 3 gallons of gas. What is the car's gas mileage in miles per gallon?

Write the rate as a fraction. Then find an equivalent rate with a denominator of 1.

$$\begin{array}{ll}
 78 \text{ miles using } 3 \text{ gallons} = \frac{78 \text{ mi}}{3 \text{ gal}} & \text{Write the rate as a fraction.} \\
 = \frac{78 \text{ mi} \div 3}{3 \text{ gal} \div 3} & \text{Divide the numerator and the denominator by 3.} \\
 = \frac{26 \text{ mi}}{1 \text{ gal}} & \text{Simplify.}
 \end{array}$$

The car's gas mileage, or unit rate, is 26 miles per gallon.

Example 2

SHOPPING Joe has two different sizes of boxes of cereal from which to choose. The 12-ounce box costs \$2.54, and the 18-ounce box costs \$3.50. Which box costs less per ounce?

Find the unit price, or the cost per ounce, of each box. Divide the price by the number of ounces.

$$\begin{array}{ll}
 12\text{-ounce box} & \$2.54 \div 12 \text{ ounces} \approx \$0.21 \text{ per ounce} \\
 18\text{-ounce box} & \$3.50 \div 18 \text{ ounces} \approx \$0.19 \text{ per ounce}
 \end{array}$$

The 18-ounce box costs less per ounce.

Exercises

Find each unit rate. Round to the nearest hundredth if necessary.

1. 18 people in 3 vans
2. \$156 for 3 books
3. 115 miles in 2 hours
4. 8 hits in 22 games
5. 65 miles in 2.7 gallons
6. 2,500 Calories in 24 hours

Choose the lower unit price.

7. \$12.95 for 3 pounds of nuts or \$21.45 for 5 pounds of nuts
8. A 32-ounce bottle of apple juice for \$2.50 or a 48-ounce bottle for \$3.84.