

Name _____

Rates

Essential Question How can you find rates and unit rates?

UNLOCK the Problem REAL WORLD

CONNECT You know how to write ratios to compare two quantities. A **rate** is a ratio that compares two quantities that have different units of measure. A **unit rate** is a rate that has 1 unit as its second term.

Rafael is shopping at a used book and music store. A sign advertises 4 CDs for \$12. What is the unit rate for the cost of 1 CD?

1 Write the rate in fraction form. Then find the unit rate.

STEP 1

Write the rate in fraction form to compare dollars to CDs.

$$\frac{\text{dollars}}{\text{CDs}} \longrightarrow \frac{12}{\square}$$

STEP 2

Divide to find an equivalent rate so that 1 is the second term.

$$\frac{12}{4} = \frac{12 \div \square}{4 \div \square} = \frac{\square}{1} \longleftarrow \text{unit rate}$$

So, the unit rate for CDs is _____ for 1 CD.

- What are the units of the quantities that are being compared?

- What operations can you use to write equivalent ratios?

Math Talk

Would it make sense to compare CDs to dollars to find a unit rate? **Explain.**

- **What if** the regular price of CDs is 5 for \$20? What is the unit rate for CDs at the regular price? **Explain** how you found your answer.

Share and Show



1. Find the unit rate of speed for 120 miles in 2 hours.

$$\begin{array}{l} \text{miles} \longrightarrow \\ \text{hours} \longrightarrow \end{array} \frac{120}{\square} = \frac{\square}{2} \div \frac{2}{\square} = \frac{\square}{\square}$$

The unit rate of speed is _____ per _____.

Find the unit rate.

2. \$5.00 for 2 T-shirts

3. 200 words in 4 min

4. 150 mi on 10 gal of gas

On Your Own

Write the rate in fraction form.

5. 90 words in 2 min

6. \$1.20 for 6 goldfish

7. \$0.05 per page

Find the unit rate.

8. \$208 for 4 tires

9. 300 mi per 15 gal

10. 240 people per 2 sq mi

Problem Solving



11. An ice skating rink charges \$1.50 to rent ice skates for 30 minutes. What is the unit rate per hour for renting ice skates?
