

Solving Problems using Proportional Reasoning

Name _____
Date _____

For each problem, set up a proportion. Include the units for each ratio. Then solve for the missing value and label your answer with appropriate units. Round answers to the nearest tenth.

Sam raked 3 bags of leaves in 16 minutes. If he continues to work at the same rate, about how long will it take him to rake 5 bags?

Proportion with Units

_____ = _____

Work + Solution

2. Amy earned \$25 after babysitting for 3 hours. If she always charges the same rate, how much will she make after working for 7 hours?

Proportion with Units

_____ = _____

Work + Solution

3. A 2-month membership to the gym costs \$125. Jim would like to be a member for 8 months. What is the total amount he will pay for 8 months?

Proportion with Units

_____ = _____

Work + Solution

4. Bobby drove 110 miles, and his car used up 5 gallons of gas. How many miles can he drive with 16 gallons of gas?

Proportion with Units

_____ = _____

Work + Solution

5. Mary ran 2 miles in about 23 minutes. If she continued at the same pace, how long will it take her to run 10 miles?

Proportion with Units

_____ = _____

Work + Solution

Skills Practice

Solve Proportional Relationships

Solve each proportion.

1. $\frac{11}{10} = \frac{n}{14}$

2. $\frac{2.5}{35} = \frac{2}{a}$

3. $\frac{3.5}{18} = \frac{z}{36}$

4. $\frac{0.45}{4.2} = \frac{p}{14}$

5. $\frac{2.4}{6} = \frac{2.8}{s}$

6. $\frac{3.6}{k} = \frac{0.2}{0.5}$

For Exercises 10–12, assume all situations are proportional.

10. **CLASSES** For every girl taking classes at the martial arts school, there are 3 boys who are taking classes at the school. If there are 236 students taking classes, write and solve a proportion to predict the number of boys taking classes at the school.
11. **BICYCLES** An assembly line worker at Rob's Bicycle factory adds a seat to a bicycle at a rate of 2 seats in 11 minutes. Write a proportion relating the number of seats s to the number of minutes m . At this rate, how long will it take to add 16 seats? 19 seats?
12. **PAINTING** Lisa is painting a fence that is 26 feet long and 7 feet tall. A gallon of paint will cover 350 square feet. Write and solve a proportion to determine how many gallons of paint Lisa will need.