

# 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.

1. 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

## Setting Up Proportions

Solve each proportion.

$$1. \frac{7}{16} = \frac{x}{32}$$

$$2. \frac{7}{4} = \frac{21}{b}$$

$$3. \frac{y}{9} = \frac{4}{12}$$

$$4. \frac{5}{a} = \frac{9}{27}$$

$$5. \frac{18}{24} = \frac{6}{d}$$

$$6. \frac{15}{6} = \frac{n}{2}$$

$$7. \frac{r}{10} = \frac{21}{7}$$

$$8. \frac{4}{m} = \frac{8}{11}$$

$$9. \frac{17}{50} = \frac{x}{25}$$

Write a proportion that could be used to solve each variable. After you have written all the proportions, go back and solve them if you have time.

10. 1 subscription for \$21  
28 subscriptions for x dollars

11. 20 ounces at \$7  
17 ounces at x dollars

12. 1 gallon of water weighs  $8\frac{1}{3}$  pounds  
30 gallons of water weighs x pounds

13. 1 cm represents 3.5 km  
2.4 cm represents x km

14. 5 liters at \$15.25  
x liters at \$33.55

15. 3 packages of cheese for \$7.17  
6 packages of cheese for x dollars