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.

	Proportion with Units	Work + Solution
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?	$\frac{3\text{bag}}{16\text{min.}} = \frac{5\text{bags}}{x}$	$3x = 80$ $\frac{3x}{3} = \frac{80}{3}$ $x = 26.6\text{ min}$
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?	$\frac{\$25}{3\text{hrs}} = \frac{x}{7\text{ hrs}}$	$3x = 175$ $\frac{3x}{3} = \frac{175}{3}$ $x = \$58.\overline{3}$
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?	$\frac{\$125}{2\text{months}} = \frac{x}{8\text{months}}$	$2x = 1000$ $\frac{2x}{2} = \frac{1000}{2}$ $x = \$500$
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?	$\frac{110\text{ miles}}{5\text{gals}} = \frac{x}{16\text{gals.}}$	$5x = 1760$ $\frac{5x}{5} = \frac{1760}{5}$ $x = 352\text{ mi}$
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?	$\frac{2\text{ mi.}}{23\text{min.}} = \frac{10\text{ mi.}}{x}$	$2x = 230$ $\frac{2x}{2} = \frac{230}{2}$ $x = 115\text{ min}$

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