Practice Solving Proportions

Show all your work/thinking. Check your solutions ...How *do you undo division?!*

1. $\frac{w}{35} = \frac{4}{7}$ $\frac{7w}{7} = \frac{140}{7}$ $w = 20$	2. $\frac{9}{2} = \frac{m}{12}$ $\frac{108}{2} = \frac{2m}{2}$ $54 = m$
3. $\frac{11}{6} = \frac{x}{28}$ $\frac{308}{6} = \frac{6x}{6}$ $51.\overline{3} = x$	3. $\frac{z}{15} = \frac{17}{4}$ $4z = 255$ $z = 63.75$
5. $\frac{3}{14} = \frac{102}{x}$ $3x = 1428$ $x = 476$	6. $\frac{5}{y} = \frac{15}{75}$ $375 = 15y$ $25 = y$
7. $\frac{6}{r} = \frac{3}{r-2}$ $6r - 12 = 3r$ $-12 = -3r$ $4 = r$	8. $\frac{x-4}{x+3} = \frac{5}{6}$ $6x - 24 = 5x + 15$ $x = 39$

"The importance of information is directly proportional to its improbability." -- Jerry Pournelle

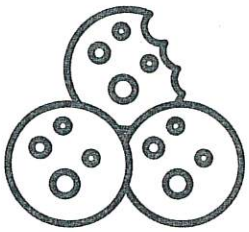
Day 7: Solving Proportions #7

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?	$\frac{3 \text{ bags}}{16 \text{ mins}} = \frac{5 \text{ bags}}{X \text{ mins}}$	$\frac{3x}{3} = \frac{80}{3}$ $x = 26.6$ It will take 26.6 minutes
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?	$\frac{\$25}{3 \text{ hours}} = \frac{X}{7 \text{ hours}}$	$\frac{3x}{3} = \frac{175}{3}$ $x = 58.33$ She would make $58.33
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?	$\frac{2 \text{ mo}}{\$125} = \frac{8 \text{ mo}}{X}$	$2x = 1000$ $x = 500$ 8 months cost 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?	$\frac{110 \text{ mi}}{5 \text{ gal}} = \frac{X}{16 \text{ gal}}$	$\frac{1760}{5} = \frac{5x}{5}$ $352 = x$ He can drive 352 miles
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?	$\frac{2 \text{ mi}}{23 \text{ min}} = \frac{10 \text{ mi}}{X \text{ min}}$	$\frac{2x}{2} = \frac{230}{2}$ $x = 115$ It would take 115 min.

Write and solve a proportion.

Example 1: To make 24 cookies you need to use 9 ounces of flour. Write and solve a proportion to figure out how many cookies you can make if you only have 5 ounces of flour.



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$\frac{24 \text{ cookies}}{9 \text{ oz}} = \frac{x \text{ cookies}}{5 \text{ oz}}$ → $13.\overline{3}$ cookies

$\frac{120}{9} = \frac{9x}{9}$

Ex 1 Continued: Your sister comes home with 124 ounces of flour. How many cookies can you make with 124 ounces of flour?

$\frac{24}{9} = \frac{x}{124}$ → $330.\overline{6}$ cookies

$9x = 2976$

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Example 2: An architect builds a scale model of CHS. The school is 45 feet high. The ratio of the model to the actual school is 1 foot to 60 feet. Find the height of the model.

$\frac{1}{60} = \frac{x}{45}$

$\frac{45}{60} = \frac{60x}{60}$

$x = .75$

The model is .75 feet high

Suppose the ratio of the model to the actual school is 1 foot to 100 feet. Find the height of the model.

$\frac{1}{100} = \frac{x}{45}$

$45 = 100x$

$.45 = x$

The model is .45 feet high.

Day 8 REVIEW #8

We will make a review flipbook, use the problems below to create your unit 2 resource. Check your solutions!

TYPICAL EQUATIONS

Choose at least 6 problems from below. Solve each equation, then check your solution.

1) $4-3(5n-6)=97$

2) $1+3v+5v=17$

3) $7(7-4n)=22-n$

4) $5(7n+4)=5(8+7n)$

5) $2(r-5)=2r-2(1-4r)$

6) $8+\frac{x}{4}=6$

7) $\frac{r}{3}+1=-5$

8) $\frac{6+n}{9}=-1$

9) $1=\frac{5+x}{10}$

PROPORTIONS

Solve each proportion. Check your solution.

10) $\frac{9}{k}=\frac{4}{10}$

11) $\frac{9}{3}=\frac{n}{4}$

12) $\frac{n-5}{n}=\frac{6}{10}$

13) $\frac{n-2}{9}=\frac{n-6}{8}$