Unit 2b Study Guide

(Ratios and Proportional Relationships: Proportions and Unit Conversions) CALUCULATORS ALLOWED!

Name:_____ Period: _____

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Page 1: Proportions

(#1-3) Find the missing value in the proportions:

1.) $\frac{p}{12} = \frac{5}{4}$ 2.) $\frac{2}{7} = \frac{5}{t}$ 3.) $\frac{r}{3} = \frac{20}{12}$

(#4-6) Use the correct symbol (<, >, or =) to compare.

4.) 5,000 grams ◯ 6 kilograms 5.) 80 fluid ounces ◯ 12 cups 6.) 25 feet ◯ 288 inches

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Page 2: Problem Solving with Proportions

1.) The average rainfall in Seattle is 75 inches a year. Is that greater or less than British Columbia's average, which is 98 centimeters a year? You may use the table below to justify your answer, ***or*** use a proportion.

inches (in)	1	10	50	75	100
centimeters (cm)	2.54				

Seattle's average rainfall is _____ than British Columbia's average rainfall. Justify your answer here:

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2.) Red the Repairman fixed 476 leaky faucets in 2 weeks. How many faucets could Red fix in a month? Justify your answer using a proportion or table that includes unit rate.

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Page 3: Problem Solving with Proportions (Continued)

3.) On average, Sasquatch's foot grows 6 inches every 4 years. At this rate, how much would Sasquatch's foot grow in 7 years? Justify your answer using a proportion or table that includes unit rate.

4.) Last year, Jose rode his bike 120 miles. How many kilometers did he ride his bike each month?
(Hint: 1 mile ≈ 1.61 kilometers.)

Page 3: Problem Solving with Proportions (Continued)

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Page 4: Dimensional Analysis

1.) Bob the Builder converting 10 inches into meters for a house he is building in Mexico. What value should he replace x and y with?

$$\left(\frac{10.0\ inches}{1}\right)\left(\frac{x\ centimeters}{1\ inch}\right)\left(\frac{y\ meter}{100\ centimeters}\right)$$

x = _____

y = _____

2.) A turtle swims 20 feet every 5 seconds and wants to know how fast he is swimming in miles per hour. What value should he replace x and y with?

$$\left(\frac{20\ feet}{5\ seconds}\right)\left(\frac{x\ mile}{5{,}280\ feet}\right)\left(\frac{60\ seconds}{1\ minute}\right)\left(\frac{y\ minutes}{1\ hour}\right)$$

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