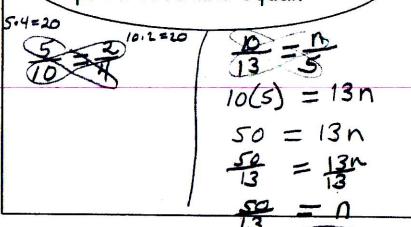
Math 7 Notes Section 1-6 **Solving Proportions**

A proportion is an equation stating that two ratios or rates are equivalent.

$$\frac{2}{3} = \frac{4}{6} \qquad \frac{2^{\times \$}}{5_{\times \$}} = \frac{n}{40}$$

In a proportion the cross products are equal.



Methods to Solve a Proportion

1) Use cross products and solve algebraically

$$\frac{4.2}{n} = \frac{8}{5}$$

4.2 = 8 Owrite crossproducts with = intertuen

3 Do arithmetic

4.2(5) = 8n @ Do arithmedic

21 = 8n @ copy and step

21 = 8n @ Divide both sides

by # infront of

Variable

n = 2 = or 2.625

solve using algebraic steps: Round to nearest tent n(13) = 17(5) 1.3 n = 85n = 65.3846. n ~ 65.4

200

Methods to Solve a Proportion

2) Use concept of equivalent ratios.

$$\frac{4^{12}}{5_{12}} = \frac{8}{n}$$

$$\frac{24}{30} = \frac{8}{3}$$

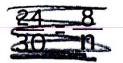
Methods to Solve a Proportion

3) Sometimes you can put one of the ratios in simplest form first.

$$\frac{9}{15} = \frac{6}{n}$$

$$\frac{3}{5}$$

1=10



Carla earns \$74.25 for working 8 hours last week. How much will she earn for working 20 hours?

$$\frac{74.25}{80015} = \frac{11}{20}$$

$$(74.25)(20) = 8n$$

$$1485 = 8n$$

$$1485 = 8n$$

$$185.625 = 0$$

The ratio of salt to water in a certain solution is 2 to 17. If the solution contains 34 ounces of salt, how many ounces of water does it contain?

Salt
$$\frac{2^{x17}}{water} = \frac{34}{17x_{17}}$$

