Name _____ Class _____ Date _____

Reteaching 2-4

Ratio and Proportion

OBJECTIVE: Solve proportions **MATERIALS:** None

An equation that states that two ratios are equal is called a proportion. In a proportion, the cross products are equal.

Example

Use cross products to find out if the proportion $\frac{2}{7} = \frac{10}{40}$ is true.

$\frac{2}{7} = \frac{10}{40}$

$2 \cdot 40 = 7 \cdot 10$ ← **Write cross products.**

$80 = 70$ ← **Simplify.**

$80 \neq 70$ ← **Proportion is not true since 80 does not equal 70.**

Use cross products to write and solve equations involving proportions.

Solve: $\frac{5}{6} = \frac{25}{x}$

$\frac{5}{6} = \frac{25}{x}$ ← **The cross products are $5x$ and $6 \cdot 25$ or 150.**

$5x = 6 \cdot 25$ ← **Set cross products equal to each other.**

$5x = 150$ ← **Simplify.**

$\frac{5x}{5} = \frac{150}{5}$ ← **Use the Division Property of Equality.**

$x = 30$ ← **Simplify.**

Exercises

Determine if the proportions are true. (Hint: the cross products should be equal.)

1. $\frac{6}{10} = \frac{12}{20}$ **2.** $\frac{4}{5} = \frac{7}{8}$ **3.** $\frac{33}{22} = \frac{24}{16}$

Solve each proportion.

4. $\frac{x}{5} = \frac{2}{10}$ **5.** $\frac{9}{180} = \frac{n}{60}$ **6.** $\frac{2}{x} = \frac{8}{36}$

7. $\frac{2}{6} = \frac{4}{x}$ **8.** $\frac{30}{125} = \frac{n}{100}$ **9.** $\frac{3}{18} = \frac{t}{6}$

10. $\frac{t}{5} = \frac{3}{5}$ **11.** $\frac{28}{8} = \frac{7}{x}$ **12.** $\frac{9}{n} = \frac{18}{2}$

All rights reserved.

© Pearson Education, Inc., publishing as Pearson Prentice Hall.