

January 3, 2012

$$17) \quad \underline{\underline{7+5p}} - \underline{\underline{10p}} - \underline{\underline{8}} \\ - 5p - 1$$

$$22) \quad -6 - 7(-10 + 3x) \\ = -\underline{6} + \underline{70} - 21x \\ = -21x + 64$$

$$18) \quad \underline{\underline{1r-8}} + \underline{\underline{3r-7}} \\ 4r - 15$$

1/3 - Testing and solving proportions

6 x's    8 ★'s

*What is a ratio?*

Comparison  
of 2 numbers

*How do you write it?*

6 : 8     $\frac{6}{8}$     6 to 8  
=  $\frac{3}{4}$



If two ratios can both measure the same things, they are called **equivalent**.

$$\frac{3}{4} \text{ and } \frac{6}{8}$$



$$\frac{2}{3} \text{ and } ??$$

$$\frac{4}{6}, \frac{6}{9}, \frac{10}{15}, \dots$$

Are the given ratios equivalent?

$$\frac{5}{8} \text{ and } \frac{20}{32}$$

Yes

#s must be  
the same

$$\frac{4}{5} \text{ and } \frac{8}{15}$$

No!

$$\frac{3}{2} \text{ and } \frac{4}{6}$$

No!

*What does the variable have to equal in order for the ratios to be equivalent?*

$$\frac{3 \cdot 4}{8 \cdot 4} \text{ and } \frac{x}{32}$$

$$x = 12$$

$$\frac{4 \cdot 2}{b \cdot 2} \text{ and } \frac{8 \div 2}{20 \div 2}$$

$$b = 10$$

$$\frac{3 \cdot 3}{2 \cdot 3} \text{ and } \frac{9}{n}$$

$$n = 6$$

Solve each proportion...

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

$$9 = x$$

$$\frac{4}{b} = \frac{5}{6}$$

Cross-Multiply

$$\frac{5b}{5} = \frac{24}{5}$$

$$b = 4\frac{4}{5}$$

$$\frac{3}{2} = \frac{10}{n}$$

$$\frac{3n}{3} = \frac{20}{3}$$

$$n = 6\frac{2}{3}$$

$$\frac{c}{6} = \frac{8}{9}$$

$$9c = 48$$

$$c = 5\frac{2}{3}$$

$$\left(5\frac{1}{3}\right)$$

## Homework:

Lilac

**Worksheet** WSI  
**#** 1-22

**due** Wednesday