Math 60, Sections 3.5 and 3.6 Class Prep Assignment Name:_____

Watch the videos and take notes on this page

Due at the Beginning of Next Class

Section 3.6 Special Solution Sets

Equations with Special Solution Sets

1. Solve each equation.

a. $3x+7-x=2x-11$

b. $2x+5+x=3(x-1)+8$

c. $5x+1=6x+1$

Summary:

An equation or inequality is inconsistent if it is not true for any real number. In this case we write

- No solution
- the empty set: $\varnothing$, or
- empty brackets: $\{\ \}$

An equation or inequality is an identity if it is true for all real numbers. In this case we write

- All real numbers
- $\mathbb{R}$
- $\{x \mid x \text{ is a real number}\}$

Section 3.5 Ratios and Proportions

A rate or ratio compares two quantities using division. A proportion states that two rates or ratios are equal.

2. Solve the following proportions. Check each solution and write the solution set.

a. $\frac{x+2}{5} = \frac{3}{4}$

b. $\frac{y-1}{10} = \frac{y+2}{16}$

3. A car is driving 60 mph. Set up and solve a proportion to find out how long will it take the car to travel 132 miles? Remember to define your variable.

Similar triangles have the same angles and their sides are proportional.

4. Write and solve proportions for the similar triangles to find x and y.