Lesson 1.4 Warm Up (Clickers)

1. Which property is being illustrated below?

$$9(3x - 4) + 9 = 27x - 36 + 9$$

2. What number system does the following belong to (name all that apply)?

a. 7/9

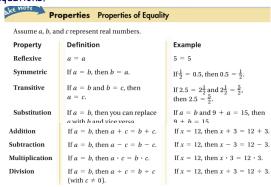
b. 4

c. -√7

3. Solve the equation:

5x + x + 1 = 13

<u>Lesson 1.4 Essential Understanding:</u> You can use the properties of equality and inverse operations to solve equations.



Ex. Solve -27 + 6y = 3(y - 3)

Ex. Solve: 8x - 4 - 2(3x + 5) = 20

Ex. Solve 5x - 3 = 12x + 20 - 8x

1 Solve: -2(3x + 4) = 12x

2 Solve: 8x - 6 - 3x = 20x + 9

Ex. Flower carpets incorporate hundreds of thousands of brightly-colored flowers as well as grass, tree bark, and sometimes fountains to form intricate designs and motifs. The flower carpet below, from Grand Place in Brussels, Belgium, has a perimeter of 200 meters. What are the dimensions of the flower carpet?



Recall from algebra 1 when solving equations there are times when the variables will cancel--resulting in either true or false equations.

If the equation is true, for example 5 = 5, then the original equation has an <u>infinite number of solutions</u>, or all real numbers. It is also called an <u>identity</u> and will **always** be true.

If the equation is false, for example 5 = 3, then the original equation has <u>no solutions</u>. It will **never** be true.

Ex. Will the following equation always, sometimes, or never be true?

$$12 + 6x = 2(3x - 5)$$

3 Solve: 4 + 3x = 6x + 5 - 3x

4 Solve: 6x + 5 - 2x = 4 + 4x + 1

A <u>literal equation</u> is an equation that uses at least two different letters as variables. You can then solve for any of the variables in the equation.

Ex. The equation $C=\frac{5}{9}(F-32)$ relates temperatures in degrees Fahrenheit F and degrees Celsius C. What is F in terms of C?

5 The equation K = C + 273 relates temperatures kelvins K and degrees Celsius C. What is C in terms of K?