

# Welcome to class!

You have 10 minutes to work on your test corrections.

If your test corrections are complete, please put them into the inbox. You may use this time as you see fit. (I suggest organizing your binder, doing homework, or reading independently).

Remember these are due on Thursday.



## Warm-Up

What does it mean to be “equal” - both in the math world and beyond.

Work with your table group to come up with a definition.  
Write that definition down for your warm-up today.



# Properties of Equalities

September 18, 2018

# Addition Property of Equality

Adding the same number to each side of an equation produces an equivalent equation.

If  $a=b$ , then  $a+c=b+c$

Example:

$$X - 3 = 2$$

$$X - 3 + 3 = 2 + 3$$



# Subtraction Property of Equality

Subtracting the same number from each side of an equation produces an equivalent equation.

If  $a=b$ , then  $a-c=b-c$

Example:

$$X + 3 = 2$$

$$X + 3 - 3 = 2 - 3$$



Try these:

$$-7 = b - 3$$

$$x + 13 = 27$$



# Multiplication Property of Equality

Multiplying each side of an equation by the same nonzero number produces an equivalent equation.

If  $a=b$ , then  $a \cdot c=b \cdot c$

Example:

$$x/3 = 2$$

$$x/3 \cdot 3 = 2 \cdot 3$$



# Division Property of Equality

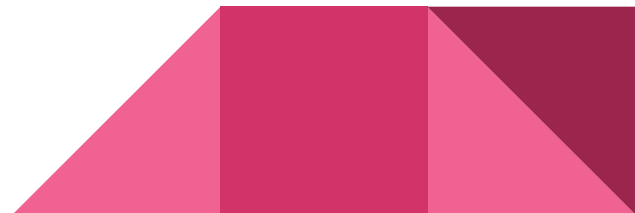
Dividing each side of an equation by the same nonzero number produces an equivalent equation.

If  $a=b$  and  $c \neq 0$ , then  $a/c=b/c$

Example:

$$5X = 20$$

$$5X / 5 = 20 / 5$$





Try these:

$$4x = 6.4$$

$$.5 = y - 1.5$$



# Steps for solving an equation

1. Locate the variable
2. See what is happening to the variable
3. Simplify if needed
4. Undo any addition and subtraction first
5. Undo any multiplication and division last



# Solving a Two-Step Equation

$$2x + 3 = 15$$

Label the properties of equality that you used!



# Solving a Two-Step Equation

$$\frac{1}{2}a - 3 = 18$$

Label the properties of equality that you used!



# Tonight's Homework:

Complete the Two-Step Equation worksheet.

Show all work and include the property of equality that you use for each step!