Good Morning!
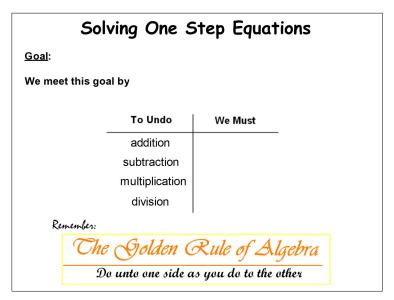
Today you will need:
- notes page (I will pass out)
- corrected homework
- Vocabulary sheet
- pencil
- calculator

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Solving Equations

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equation

A number sentence stating that two quantities are equal (it must have an equal sign).	ex: $10 = 2x - 5$ an <u>equation</u> where the quantity of **10** is <u>equal</u> to the quantity of **2x – 5** $y = 3x + 7$ an <u>equation</u> where the quantity of **y** is <u>equal</u> to the quantity of **3x + 7**

solution to an equation

The value of the variable that makes an equation true.	ex: $4x - 6 = 10$ $\underline{+6 \quad +6}$ $4x = 16$ $\underline{\div 4 \quad \div 4}$ $x = 4$ $4(4) - 6 = 16 - 6 = 10$

Solving One Step Equations

<u>Goal</u>:

We meet this goal by

To Undo	We Must
addition	
subtraction	
multiplication	
division	

Remember:

The Golden Rule of Algebra
Do unto one side as you do to the other

To solve, you must get the variable alone on one side.

** You <u>*must always*</u> show all your ALGEBRAIC steps

Solve	Check Your Work *by putting your answer back into the equation*
$3 + x = -8$	
$x - 1 = -3$	
$-56 = 8x$	
$\dfrac{x}{-12} = -5$	

<u>Practice Problems</u>...
Solve the following equations, show your steps, and check your answer.

1) $-6 = x - 2$

2) $-8 + a = -4$

3) $-3c = 9$

4) $\dfrac{b}{12} = 2$

Milo walks at a rate of 3.2 meters per second.

1. Write an equation that represents the distance *d* that Milo walks in *t* seconds.

2. He walks at this same rate for 50 seconds. How far does he walk? Replace one of the variables in the equation from #1 and solve to find the answer.

3. At this rate, how long does it take him to walk 112 meters? Replace one of the variables in the equation from #1 and solve to find the answer.

Some equations are easier to solve...

12 = 4x

Find the value of x.

x = 3

3x + 1 = 10

Find the value of x.

x = 3

Some equations are more difficult...

$$\frac{4x}{7} + 9(2x - 6.4) = (2x)^3 - \pi + 9842x$$

So...

As equations get more complicated we must have a <u>systematic way</u> to solve for missing

values...or variables in any given equation.