Grab a half sheet from the front table and start warming up. Have your homework out ready to check.

# Classwork - Two Step Equations

Solve the following equations. If you need to simplify the left or right side before you solve, do so and then rewrite the new equation. Make sure you show how you are undoing operations on **BOTH** sides of the equation.

A) 
$$x + 8 = 3$$
  
 $X = -5$ 

$$B)^{2} \cdot \frac{x}{2} = -14 \cdot 2$$

$$X = -28$$

$$C) -6x = 45$$

D) 
$$(4)+x(-10)=-2$$

$$(4)+x(-10)=-2$$

$$(5)-(6)$$

$$(7)-(6)$$

$$(7)-(7)$$

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

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

$$F(2x-4x) = -8+14$$

$$-2x = (0$$

$$-2 = -2$$

$$-2$$

$$(x=-3)$$

 Solve the following one-step equations. Make sure to show inverse operations on BOTH sides and WORK DOWN, SHOW ALL WORK. Guess and Check is not a method to use anymore.

$$\begin{array}{c} A)x-7=-9\\ +7+7\\ \hline \chi=-2 \end{array}$$

$$8 \cdot \frac{x = -5 \cdot 8}{\sqrt{x = -40}}$$

$$C) - x = 5$$

$$-1x = 5$$

$$-7 = 7$$

$$X = -3$$

D) 
$$x + 17 = -6$$
  
 $-17 - 77$   
 $X = -23$ 

E) 
$$3.5x = -21$$
  
 $3.5$   $3.5$   
 $X = -6$ 

Simplify and THEN solve the following one-step equations. Make sure to show inverse operations on BOTH sides and WORK DOWN. SHOW ALL WORK. Guess and Check is not a method to use anymore.

A) 
$$x(-9+9)=15$$

D) 
$$x + 1 - 9 = -8$$

$$G(3g-6g) = 10+4$$

B) 
$$-\frac{x}{-5} = 8 + 3$$

$$E(-3)(-12) = -90$$

$$-15x = -90$$

$$-15 - 75$$

$$X = 6$$

$$\frac{-14=-7x}{-7}$$

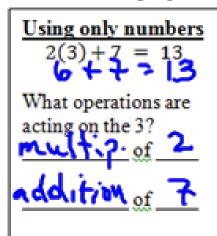
C) 
$$(2)$$
  $(11)$  = -40

F) 
$$b + 6 = 3$$

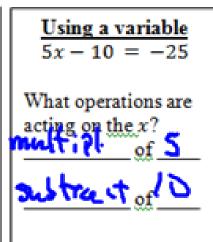
I) 
$$\frac{x}{12} = -5 - 7$$

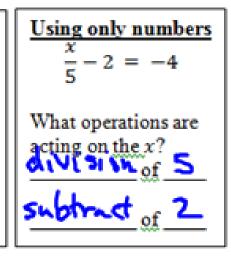
# Solving 2-step equations

In a two-step equation, there are 2 different operations that are acting on the variable.



Using only numbers
$$\frac{(20)}{4} - 2 = 3$$
What operations are acting on the 20?
$$\frac{d_1 \sqrt{s_1 on_{of}}}{s_1 on_{of}} = 2$$





# Solving 2-step equations

Solving 2-step equations means we need to undo 2 operation before finding the value of 1x or x.

Goal: Keep making the equation simpler in order to find the value of 1x or x.

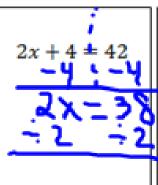
#### Process:

- 1) Look at what operations are acting on your variable
- 2) Undo the multiple operations that are acting on your variable First: Undo Addition or Subtraction

Second: Undo Multiplication or Division

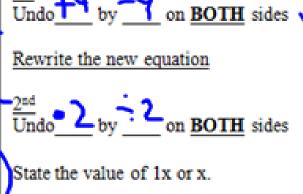
- Find the value of 1x
- 4) Check your answer

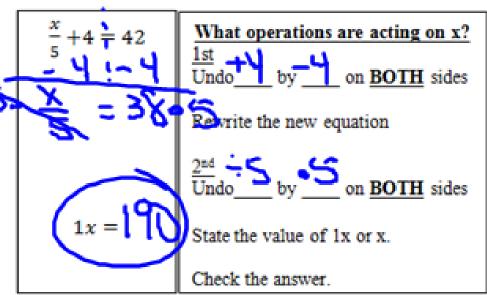
For the following problems, you will be given a two-step equation. Following the instruction above and undo the operations acting on x until you find the value of 1x or x.

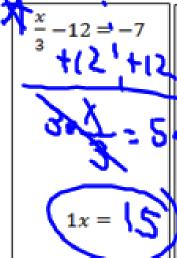


What operations are acting on x?

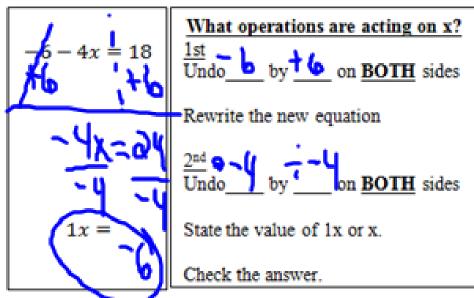
Check the answer.







What operations are acting on x?  $f(2) + 12 \frac{1st}{Undo} - 12by + 12on BOTH sides$ Rewrite the new equation Undo by on BOTH sides State the value of 1x or x. Check the answer.



# Solving 2-step equations

Solving 2-step equations means we need to undo 2 operation before finding the value of 1x or x.

Goal: Keep making the equation simpler in order to find the value of 1x or x.

### Process:

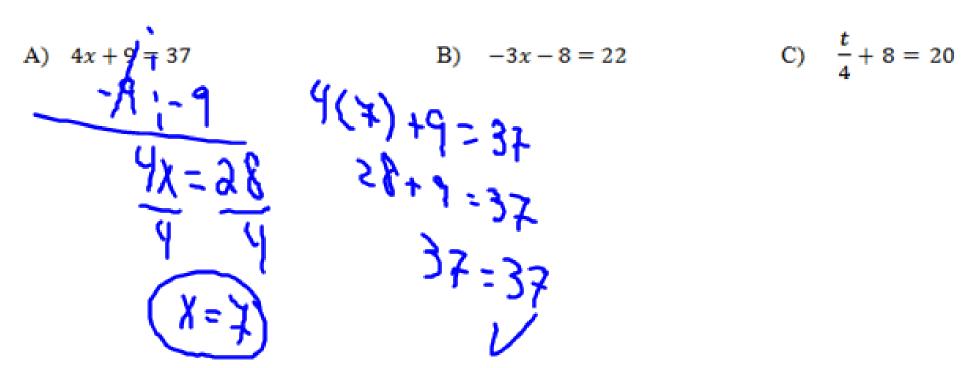
- 1) Look at what operations are acting on your variable
- 2) Undo the multiple operations that are acting on your variable

First: Undo Addition or Subtraction

Second: Undo Multiplication or Division

- Find the value of 1x
- Check your answer

Solve the following 2-step equations. Use the exact same process as we did on the front page.



D) 
$$5 + 9x = 41$$

E) 
$$\frac{x}{6} - 7 = -25$$

F) 
$$-6 + 3x = -15$$

G) 
$$-18 = 4y + 10$$

H) 
$$\frac{x}{3} + 10 = 3$$

I) 
$$-24 - a = -15$$