Get out your homework and have it ready to check. We will have a Target Check on Monday.

Classwork - Solving 2 Step Equations

$$A) x - 9 = -3$$

$$+9 + 9$$

$$X = 6$$

B) 
$$6 \cdot \frac{x}{6} = 7 \cdot 6$$

$$\left( x = 42 \right)$$

C) 
$$-8x = 20$$
  
 $-8 - 8$   
 $x = -2.5$   
F)  $8 \cdot \frac{x}{8} = -6.75 \cdot 8$ 

D) 
$$x + 10 = -6$$

$$-6$$

$$x = -16$$

$$E) -8x = -32$$

$$-8 = -32$$

$$x = 4$$

Solve each equation. Check your work.

$$1.\frac{1}{2}x = 14$$

$$2.\frac{4}{7}w = 24$$

$$4.\frac{5}{7}c = \frac{13}{14}$$

 $7. -\frac{5}{8}y = -\frac{1}{2}$ 

y=4

$$5.0.4t = 0.72$$

$$6.1.8p = 19.8$$

$$8.\frac{13}{7}n = -\frac{13}{14}$$

$$9.-5.2 = 0.04m$$

$$10. -0.8g = 3.36$$

$$11. -2h = -1.46$$

12. 
$$-\frac{7}{9}s = -\frac{1}{3}$$

### Define a variable. Then write and solve an equation for each situation.

13. COOKING Simone peeled 14 potatoes in  $\frac{1}{5}$  hour. At this rate, how many potatoes can Simone peel in one hour?

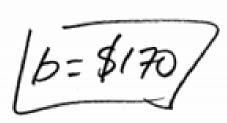
14. VOTING In the eighth grade, 322 students voted for the new mascot to be a tiger. This was <sup>7</sup>/<sub>10</sub> of the total number of students in the eighth grade. How many students are in the eighth grade?

(s = 460 students/

15. BUDGETS Rachel budgeted \$76.50 for school clothes. This is 0.45 of her total budget. How much does Rachel have in her total budget?

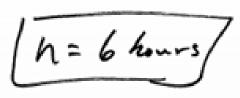
Define Variable: 6 = budget

0.456= 76.50



16. TEMPERATURE Overnight, the temperature dropped 1.3 degrees every hour. How many hours did it take the temperature to drop 7.8 degrees?

1.3h=7.8



-1.3h=-7.8

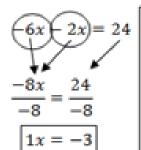
# Solving Equations

- 1) What operation(s) are acting on the variable?
- How do you undo that operation? → Make sure do to this on BOTH SIDES.

#### Simplifying Before Solving One-Step Equations

Example: Solve the equation -6x - 2x = 24

Solving:



x = -3

Simplifying: 1) Identify like terms by circling or boxing them

2) Simplify both sides of the equation by combining like terms

Rewrite Simplified Equation

3) Use inverse operations to undo what's acting on the variable on

BOTH SIDES

4) Simplify the equation until you solve for x or 1x

5) Check your solution!

 $\frac{\text{Check it!}}{x = -3}$  -6(-3) - 2(-3) = 24 18 + 6 = 24 24 = 24

x = -3 is correct

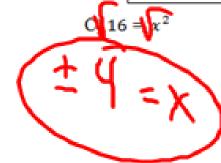
 Simplify and THEN solve the following one-step equations. Make sure to show inverse operations on BOTH sides and WORK DOWN. SHOW ALL WORK.

Guess and Check is not a method to use anymer.

A) 
$$x + 5 - 2 = 12$$

x³ ₩25





D) 
$$\sqrt{x} = 12$$
 $\chi = 144$ 

$$E(4)(-7) = [-3)(+3)$$

$$-3 \times = -27$$

$$-3 \times = -3$$

$$(X = 9)$$

$$F(-3) - 2x = -10 - 2$$

$$-3x - -12$$

$$-3x - -12$$

$$-3 + - -12$$

$$-3 + - - -12$$

$$-3 + - - -12$$

$$-3 + - - -12$$

$$-3 + - - -12$$

Solve the equations with fractions below. Remember, you can write  $\frac{2}{3}x = \frac{2x}{3}$ . Once you do this, you can undo the division on BOTH sides, rewrite the simpler equation, then undo the division on BOTH sides to find the answer.

A) 
$$\frac{2}{3}x = 15$$

$$\begin{cases} x = -10 \end{cases}$$

C) 
$$\frac{-2}{6}x = 3$$

D) 
$$\frac{5}{7}x = -10$$



## Solving 2-step equations

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

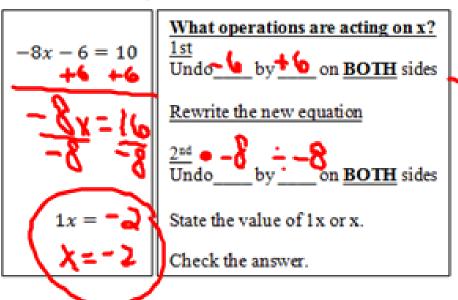
## Process:

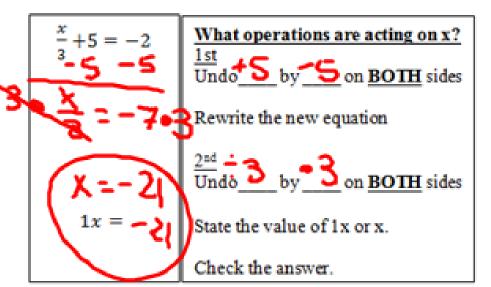
- 1) Look at what operations are acting on your variable
- 2) Undo the multiple operations that are acting on your variable

First: Undo Addition or Subtraction

Second: Undo Multiplication or Division

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





Solve the following 2-step equations using the exact same process as we did above.

A) 
$$2x + 12 = 26$$
  
 $-12 - 12$   
 $2x = 14$   
 $2x = 2$ 

B) 
$$\frac{t}{4} - 3 = 5$$
 $4 + 3 + 3$ 
 $4 + \frac{t}{4} = 8$ 

C) 
$$-3x - 5 = 28$$
  
 $+5$   $+5$   
 $-3x - 33$   
 $-3$   
 $-3$   
 $-3$   
 $-3$ 

$$\frac{2^{2}-1}{2^{2}-5^{2}}$$

$$\frac{t}{2}=-5^{2}$$

E) 
$$-4x + 8 = 32$$

F) 
$$3x - 6 = -12$$

G) 
$$\frac{1}{5}t + 7 = -3$$

H) 
$$-2x + 4 = -12$$