

Quiz tomorrow on solving equations! Grab a Warm Up from the front table.

### Classwork - Quiz Review

A)  $-3(-2x + 1) = 21$

$$\begin{array}{|c|c|} \hline -3 & 6x & -3 \\ \hline & -2x & +1 \\ \hline \end{array}$$

$$\begin{array}{r} 6x - 3 = 21 \\ +3 \quad +3 \\ \hline \end{array}$$

$$\begin{array}{r} 6x = 24 \\ \frac{6}{6} \quad \frac{6}{6} \end{array}$$

$$x = 4$$

B)  $\frac{1}{3}(6x + 9) = 27$

$$\begin{array}{|c|c|} \hline \frac{1}{3} & 2x & +3 \\ \hline & 6x & +9 \\ \hline \end{array}$$

$$\begin{array}{r} 2x + 3 = 27 \\ -3 \quad -3 \\ \hline \end{array}$$

$$\begin{array}{r} 2x = 24 \\ \frac{2}{2} \quad \frac{2}{2} \end{array}$$

$$x = 12$$

C)  $\frac{3}{4}(-12x + 8) = 32$

$$\begin{array}{|c|c|} \hline \frac{3}{4} & -9x & +6 \\ \hline & -12x & +8 \\ \hline \end{array}$$

$$\begin{array}{r} -9x + 6 = 32 \\ -6 \quad -6 \\ \hline \end{array}$$

$$\begin{array}{r} -9x = 26 \\ \frac{-9}{-9} \quad \frac{26}{-9} \end{array}$$

$$x = -2.8$$

$$D) -3(x+4) + 1 = 19$$

$$-3 \begin{array}{|c|c|} \hline -3x & -12 \\ \hline \end{array}$$

$x \quad +4$

$$-3x - 12 + 1 = 19$$

$$\begin{array}{r} -3x - 11 = 19 \\ +11 \quad +11 \\ \hline \end{array}$$

$$\begin{array}{r} -3x = 30 \\ \underline{-3} \quad \underline{-3} \end{array}$$

$$x = -10$$

$$E) 4(-2x+5) + 4x = -12$$

$$4 \begin{array}{|c|c|} \hline -8x & +20 \\ \hline \end{array}$$

$-2x \quad +5$

$$-8x + 20 + 4x = -12$$

$$-4x + 20 = -12$$

$$\begin{array}{r} -4x + 20 = -12 \\ -20 \quad -20 \\ \hline \end{array}$$

$$-4x = -32$$

$$\begin{array}{r} -4x = -32 \\ \underline{-4} \quad \underline{-4} \end{array}$$

$$x = 8$$

### Solving One-Step Equations

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

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)  $x + 9 = -2$

$$\begin{array}{r} -9 \quad -9 \\ \hline x = -11 \end{array}$$

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

$$x = -15$$

C)  $-8x = 40$

$$\begin{array}{r} \overline{-8} \quad \overline{-8} \\ \hline x = -5 \end{array}$$

D)  $x - 15 = -6$

$$\begin{array}{r} +15 \quad +15 \\ \hline x = 9 \end{array}$$

### Simplifying Before Solving One-Step Equations

2) 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)  $x - 5 + 8 = 12$

$$\begin{array}{r} x + 3 = 12 \\ -3 \quad -3 \\ \hline x = 9 \end{array}$$

B)  $\frac{x}{3} = -2 + 9$

$$\begin{array}{r} \cancel{3} \cdot \frac{x}{\cancel{3}} = 2 \cdot 3 \\ \hline x = 6 \end{array}$$

C)  $18 = -3 - 2x$

$$\begin{array}{r} 18 = -3 - 2x \\ +3 \quad +3 \\ \hline -6 = -2x \\ \hline -6 = x \end{array}$$

$$D) -5x - 7x = -36$$

$$E) 8 + x - 6 = 12$$

$$F) 3x - 8x = -9 - 6$$

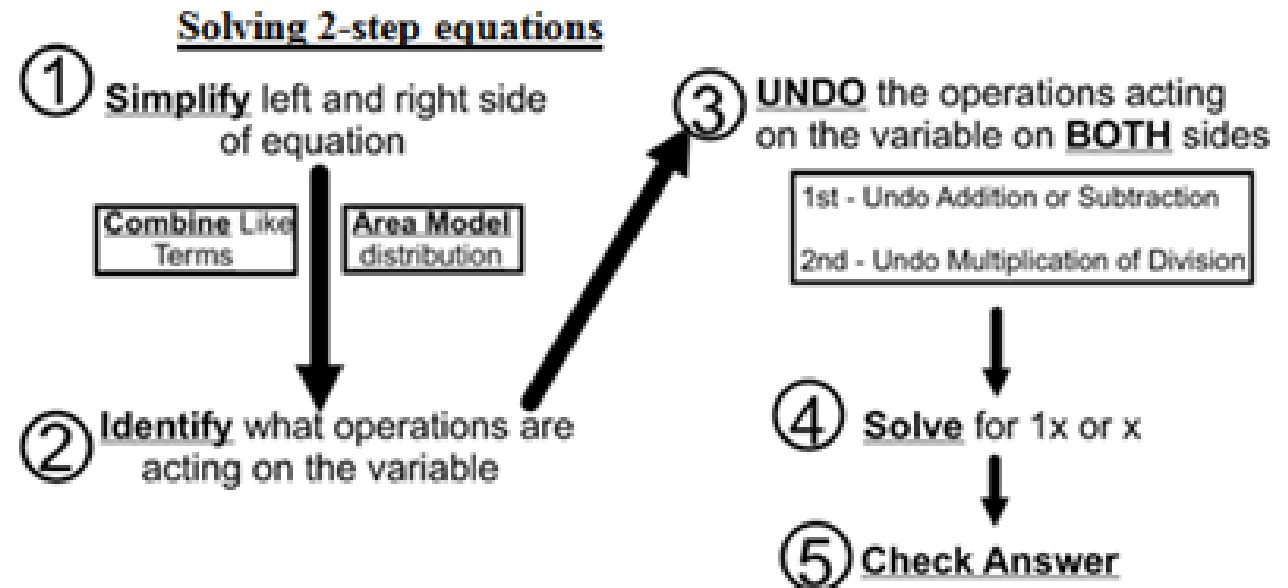
$$G) -10 + 4 = -5x + 3x$$

$$H) -4x - 6x = -44 + 14$$

$$I) -3x - 4x = -8 - 6$$

## Solving Equations

Please use the steps shown to the right to solve all equations. If the equation is already simplified (Step 1) move on to Step 2 of the process.



Solve the following 2-step equations. **SHOW ALL WORK**

A)  $3x + 8 = 23$

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

C)  $-6x - 9 = -27$

D)  $\frac{t}{2} + 10 = 8$

$$\text{E) } -7x + 12 = 54$$

$$\text{F) } -x + 8 = -3$$

$$\text{G) } \frac{1}{2}t + 8 = -4$$

$$\text{H) } -\frac{1}{3}t + 4 = 2$$

$$\cancel{3} \cdot \frac{-1t}{\cancel{3}} = -2 \cdot 3$$

$$\frac{-1t}{-1} = \frac{-6}{-1}$$

$$t = 6$$

$$\text{I) } -5x + 7 = 52$$

$$\text{J) } \frac{t}{5} - 7 = -2$$

$$\text{K) } \frac{1}{4}t + 10 = 4$$

$$\text{L) } -6x - 4 = -4$$

$$M) 8 + 4x = 28$$

$$N) 84 = -9x - 6$$

$$O) -13 + 5x = 22$$

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.

$$A) \frac{2}{5}x = 30$$

$$B) \frac{1}{3}x = -12$$

$$C) \frac{-3}{4}x = -9$$

$$5 \cdot \frac{2x}{5} = 30 \cdot 5$$

$$\frac{2x}{2} = \frac{150}{2} \quad x = 75$$

$$D) \frac{3}{8}x = -21$$

$$E) 32 = -\frac{1}{4}x$$

$$F) 18 = \frac{3}{2}x$$

$$G) -\frac{1}{4}x + 7 = 10$$

$$H) \frac{3}{4}x - 12 = 9$$

$$I) \frac{2}{5}x + 9 = 13$$