

Warm-up

Thursday 9/5

Solve for the indicated variable.

1. $8x - 2 = -9 + 7x$

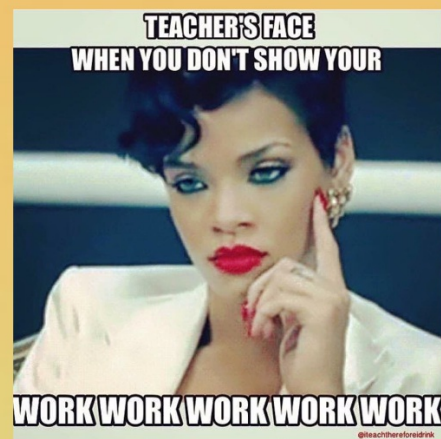
$$\begin{array}{r} +2 \quad +2 \\ \hline 8x \quad -7 + 7x \\ -7x \quad \quad -7x \\ \hline x = -7 \end{array}$$

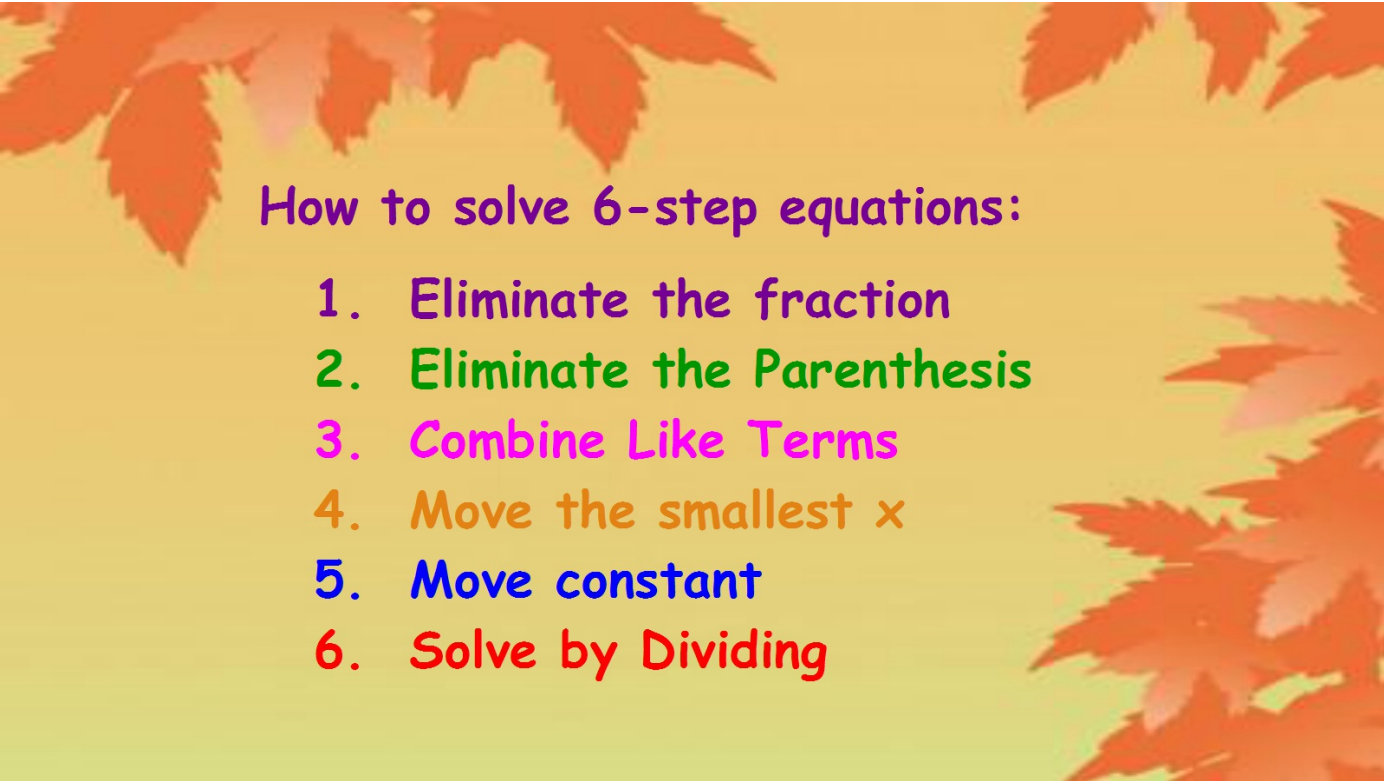
2. $12 = -4(-6x - 3)$

$$\begin{array}{r} 12 = 24x + 12 \\ +12 \quad -12 \\ \hline 0 = 24x \\ 24 \quad | \quad 24 \\ \hline \end{array}$$

Today I can solve equations with variables on both sides.

I can speak about solving equations using: variable, constant, coefficient, distribute, combine like terms, eliminate, fraction, common multiple.





How to solve 6-step equations:

1. Eliminate the fraction
2. Eliminate the Parenthesis
3. Combine Like Terms
4. Move the smallest x
5. Move constant
6. Solve by Dividing

$$5 - x = \frac{-(-x - 2) + 2}{2}$$

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

$$10 - 2x = x + 2 + 2$$

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

$$+2x \quad +2x$$

$$10 = 3x + 4$$

$$-4 \quad -4$$

$$\frac{6}{3} = \frac{3x}{3}$$

$$2 = x$$

$$\begin{array}{r} 4 \mid 4 \cancel{8} 12 \\ \hline 2 \mid 2 \cancel{4} 6 \end{array}$$

$$\cancel{4} \cdot \frac{7}{\cancel{4}} = 7$$

$$4 \left(\frac{7}{4}x - 3 = 2 + \frac{9}{2}x \right)$$

$$4 \cdot \frac{9}{2} = 2 \cdot 9 = 18$$

$$\begin{array}{r} \cancel{7x} - 12 = 8 + 18x \\ \hline \cancel{7x} \qquad \qquad -7x \\ \hline -12 = \cancel{8} + 11x \\ \hline -8 \qquad \qquad \cancel{+8} \\ \hline -20 = \cancel{11}x \\ \hline \parallel \qquad \qquad \parallel \\ \boxed{\frac{-20}{\parallel} = X} \end{array}$$

3	3	6	9	12	15	
2	2	4	6	8	10	12
4	4	8	12			

$$12 \left(\frac{3c+8}{3} = \frac{1}{2} + \frac{c}{4} \right)$$

$$12 \cdot \frac{3c+8}{3}$$

$$4 \cdot (3c+8)$$

$$12c+32$$

$$12c+32 = 6 + 3c$$

$$-3c$$


$$9c+32 = 6$$


$$-32$$

$$9c = -26$$

$$\frac{9c}{9} = \frac{-26}{9}$$

$$c = -\frac{26}{9}$$


$$\frac{1}{2}(q + 1) = \frac{4}{3} - q$$


$$\frac{2}{3} - \frac{3}{2}y + \frac{1}{3}y + 4 = 0$$