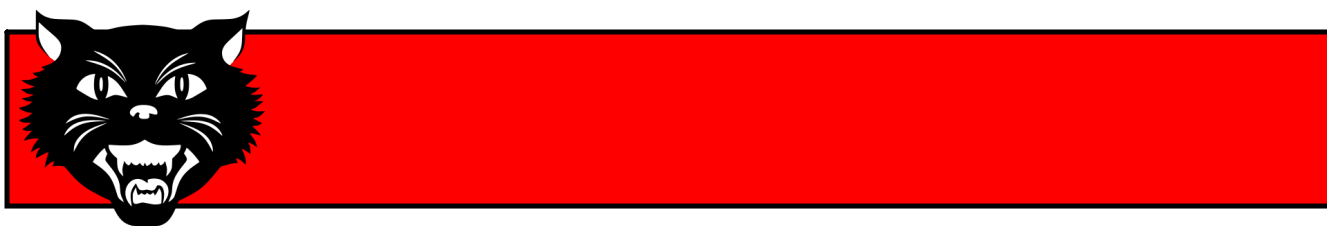




Unit 1: Solving Equations Review

Section 1.1: One and Two Step Equations

Objective: I can solve one and two step equations using inverse operations.



Inverse Operations: Math operations that are the opposite of and "undo" each other.

Examples:

+ and -

x and \div



Try:

$$\begin{array}{r|l} 1) x + 7 = -2 & \\ \downarrow -7 & -7 \\ \hline x = -9 & \end{array}$$

$$\begin{array}{r|l} 2) 6 + x = 19 & \\ -6 & -6 \\ \hline x = 13 & \end{array}$$

$$\begin{array}{r|l} 3) x - 12 = 11 & \\ +12 & +12 \\ \hline x = 23 & \end{array}$$

$$\begin{array}{r|l} 4) x - 5 = -14 & \\ +5 & +5 \\ \hline x = -9 & \end{array}$$



5) $3x = -18$

$$\frac{3x}{3} = \frac{-18}{3}$$
$$x = -6$$

7) $\frac{x}{7} = 9$

$$\frac{x}{7} \cdot 7 = 9 \cdot 7$$
$$x = 63$$

6) $-4x = 64$

$$\frac{-4x}{-4} = \frac{64}{-4}$$
$$x = -16$$

8) $-\frac{x}{6} = -2$

$$-\frac{x}{6} \cdot (-6) = -2 \cdot (-6)$$
$$x = 12$$



Two Step Equations

Reminders:

- 1) Move the numbers farther from the variable before those closer.
- 2) Whatever you do on one side, you have to do on the other.
- 3) Be very careful with negatives!



Examples:

$$\begin{array}{l} 9) \quad 3x - 7 = 5 \\ \quad \quad \downarrow +7 \quad | \quad +7 \\ \hline \quad \quad 3x = 12 \\ \quad \quad \downarrow \div 3 \\ \quad \quad \underline{x = 4} \end{array}$$

$$\begin{array}{l} 10) \quad -4x + 11 = 19 \\ \quad \quad \downarrow -11 \quad | \quad -11 \\ \hline \quad \quad -4x = 8 \\ \quad \quad \downarrow \div -4 \\ \quad \quad \underline{x = -2} \end{array}$$



Try:

$$11) \begin{array}{r} 7x + 15 = -48 \\ \hline -15 \quad -15 \\ \hline 7x = -63 \\ \hline \cancel{7}x = \frac{-63}{\cancel{7}} \\ x = -9 \end{array}$$

$$13) \begin{array}{r} \frac{x}{3} - 11 = 5 \\ \hline +11 \quad +11 \\ \hline \frac{x}{3} = 16 \\ \hline \cancel{3} \left(\frac{x}{\cancel{3}} \right) = (16) \cancel{3} \\ x = 48 \end{array}$$

$$12) \begin{array}{r} -x - 17 = -9 \\ \hline +17 \quad +17 \\ \hline -x = 8 \\ \hline \cancel{-1}x = \frac{8}{\cancel{-1}} \\ x = -8 \end{array}$$

$$14) \begin{array}{r} -\frac{x}{7} + 8 = -1 \\ \hline -8 \quad -8 \\ \hline -\frac{x}{7} = -9 \\ \hline \cancel{-7} \left(-\frac{x}{\cancel{7}} \right) = (-9) \cancel{-7} \\ x = 63 \end{array}$$



Homework: Section 1.1 in Practice Packet.

$$\cancel{3} \left(\frac{X+5}{\cancel{3}} \right) = (6) \cancel{3}$$
$$X + \cancel{5} = 18$$
$$\begin{array}{r} -5 \\ \hline X = 13 \end{array}$$