

Warm-up 9/3/14:

Solve.

$$1. \quad 15(20 + d) = 420$$

$$\begin{array}{r} 300 + 15d = 420 \\ -300 \qquad -300 \\ \hline \end{array}$$

$$\begin{array}{r} 15d = 120 \\ \hline 15 \quad 15 \\ \hline d = 8 \end{array}$$

$$2. \quad 8x - 35 - 3x = 25$$

$$\begin{array}{r} 5x - 35 = 25 \\ +35 \quad +35 \\ \hline \end{array}$$

$$\begin{array}{r} 5x = 60 \\ \hline 5 \quad 5 \\ \hline \end{array}$$

$$x = 12$$

Steps for Solving Multi-Step Equations:

1. Distributive Property

2. Combine Like Terms

- terms on each side of = sign separately

3. If there are variables on both sides of the equation, Pick the small one and move it to the other side (use add or subtract)

4. Solve.

Solve each equation.

$$\text{Ex. 1: } 5x - 4 = 3x + 8$$

$$\begin{array}{r} -3x \quad -3x \\ \hline \end{array}$$

$$2x - 4 = 8$$

$$\begin{array}{r} +4 \quad +4 \\ \hline \end{array}$$

$$\begin{array}{r} 2x = 12 \\ \hline 2 \quad 2 \\ \hline \end{array}$$

$$x = 6$$

Solve each equation.

Ex. 2: $8 + 4d = 5d$

$$\begin{array}{r|l} & -4d \\ \hline 8 + 4d & = 5d \\ -4d & -4d \end{array}$$

$$\frac{8}{1} = \frac{1d}{1}$$

$$8 = d$$

$$8 = d$$

Ex. 3: $\frac{4}{6}x - 1 = 9 - \frac{1}{6}x$

$$+\frac{1}{6}x$$

$$+\frac{1}{6}x$$

$$\frac{5}{6}x - 1 = 9$$

$$+1 \quad +1$$

$$\frac{5}{6}x = 10$$

$$\frac{6}{5}x$$

$$x = 12$$

Ex. 4: $-g + 2(3 + g) = -4(g + 1)$

$$-g + 6 + 2g = -4g - 4$$

$$g + 6 = -4g - 4$$

$$-1g$$

$$\frac{6}{1} = \frac{-5g - 4}{1}$$

$$\frac{10}{-5} = \frac{-5g}{-5}$$

$$g = -2$$