

HW: Worksheet

Warm up:

Solve.

$$4 - x = -3x - 7$$

$+3x$ $+3x$

$$4 + 2x = -7$$

$$\frac{2x}{2} = \frac{-11}{2}$$

$$4 - x = -3x - 7$$

$$\frac{4 - x + x = -3x - 7 + x}{4 = -2x - 7}$$

$$\frac{4 + 7 = -2x - 7 + 7}{11 = -2x}$$

$$\frac{11}{-2} = \frac{-2x}{-2}$$

$$-\frac{11}{2} = x$$

$$x = -\frac{11}{2}$$

$$\begin{array}{r} \cancel{5x} + 2 = \cancel{5x} + 8 \\ -\cancel{5x} \quad -\cancel{5x} \\ \hline \end{array}$$

$$2 = 8$$

no solution

$$\begin{array}{r} 3x + 7 = 3x + 7 \\ -3x \quad -3x \\ \hline 7 = 7 \end{array}$$

infinitely many solutions

$$4(x + 2) = 3(x + 6) + x$$

$$4x + 8 = \underline{3x} + 18 + \underline{x}$$

$$\cancel{4x} + 8 = \cancel{4x} + 18$$

$$8 = 18$$

no solution

$$4x + 8 = 4x + 18$$

$$\begin{array}{r} 4x + 8 = 4x + 18 \\ -8 \quad -8 \\ \hline 4x = 4x + 10 \\ -4x \quad -4x \\ \hline 0 = 10 \end{array}$$

$$5n + 10 = 4(n + 3) - (2 - n)$$

$$5n + 10 = \underbrace{4n}_{4n} + \underbrace{12}_{12} - \underbrace{2}_{2} + \underbrace{n}_{n}$$

$$\begin{array}{r} 5n + 10 = 5n + 10 \\ -5n \quad -5n \\ \hline 10 = 10 \end{array}$$

infinitely many solutions



$$\begin{array}{r} 4n + 5 = 6n + 7 \\ -4n \quad -4n \\ \hline 5 = 2n + 7 \\ \rightarrow \qquad \qquad \rightarrow \\ \hline 2 = 2n \\ \hline \textcircled{-1 = n} \end{array}$$

$$-x + 3(3x - 2) = 5 + 4(2x - 1)$$
$$\underline{-x + 9x - 6} = \underline{5 + 8x - 4}$$

$$\begin{array}{r} 8x - 6 = 8x + 1 \\ \underline{-8x} \quad \underline{-8x} \\ -6 = 1 \end{array}$$

no solution

$$9x - 4 = 2 + 3(2x - 5)$$

$$9x - 4 = 2 + 6x - 15$$

$$9x - 4 = 6x - 13$$

$$\begin{array}{r} -6x \\ \hline \end{array}$$

$$3x - 4 = -13$$

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

$$\frac{3x}{3} = \frac{-9}{3} \quad x = -3$$

$$5x + 8 = -x + 3(2x + 2) + 2$$

$$5u + 5(1 - u) = u + 8$$

$$-x - 2(x - 5) + 3(5x + 1) = (2 - x) + (3x - 5) - (4 + x)$$

