

HW: 2.4/10-13, 20-22, 25, 27, 29

Warm up:

Solve.

$$1) 2x + 5 = 13$$

$$\begin{array}{r} -5 \quad -5 \\ \hline 2x = 8 \\ \hline x = 4 \end{array}$$

$$x = 4$$

$$2) 6 - \frac{x}{4} = 11$$

$$\begin{array}{r} -6 \quad 4 \quad -6 \\ \hline \end{array}$$

$$-4 \left(-\frac{x}{4} \right) = (5)(-4) \quad x = -20$$

$$3p - 8 = 13 - 4p$$

+4p

+4p

$$7p - 8 = 13$$

+8 +8

$$7p = 21$$

$$p = 3$$

$$\begin{array}{r} 4x = 3x + 5 \\ -3x \quad -3x \\ \hline x = 5 \end{array}$$

$$\begin{array}{r} 4x = 3x + 5 \\ -4x \quad -4x \\ \hline 0 = -x + 5 \\ -5 \quad \quad \quad -5 \\ \hline -5 = -x \\ \hline 1 \quad \quad \quad 1 \\ \hline 5 = x \end{array}$$

$$x - (5x + 7) = 9 + 2x$$

$$\underline{x} - \underline{5x} - 7 = 9 + 2x$$

$$\begin{array}{r} -4x - 7 = 9 + 2x \\ \quad -9 \quad -9 \end{array}$$

$$\begin{array}{r} -4x - 16 = 2x \\ \downarrow 4x \quad \quad \quad \uparrow 4x \end{array}$$

$$\begin{array}{r} -16 = 6x \\ \quad \quad \quad \downarrow 6 \quad \quad \quad \downarrow 6 \end{array}$$

$$\frac{-16}{6} = \frac{6x}{6}$$

$$\frac{-16}{6} = x$$

$$24 \left(\frac{1}{12} + \frac{3}{8}y \right) = \left(\frac{5}{12} + \frac{5}{8}y \right) 24$$

$$\begin{array}{r} 2 + 9y = 10 + 15y \\ -9y \quad -9y \\ \hline \end{array}$$

$$\begin{array}{r} 2 = 10 + 6y \\ -10 \quad -10 \\ \hline \end{array}$$

$$\begin{array}{r} -8 = 6y \\ \frac{-8}{6} = \frac{6y}{6} \end{array}$$

$$\boxed{-\frac{4}{3} = y}$$

$$1) 4n + 10 = 5n$$

$$2) 3s = s - 2$$

$$3) 71 - 5x = 9x - 13$$

$$4) 5p - 9 = 2p + 12$$

$$5) 3x = 27 - 15x$$

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

$$\begin{array}{r} 1) 4n + 10 = 5n \\ -4n \quad -4n \\ \hline 10 = n \end{array}$$

$$2) 3s = s - 2$$

$$\begin{array}{r} -s \quad -s \\ \hline \end{array}$$

$$\begin{array}{r} 2s = -2 \\ \hline \end{array}$$

$$\begin{array}{r} s = -1 \\ \hline \end{array}$$

$$3) 71 - 5x = 9x - 13$$

$$+5x \quad +5x$$

$$\begin{array}{r} 71 - 14x - 13 \\ +13 \qquad \qquad +13 \end{array}$$

$$\begin{array}{r} 84 = 14x \\ \hline 14 \quad \quad 14 \end{array}$$

$$6 = x$$

$$4) 5p - 9 = 2p + 12$$

$$\begin{array}{r} -2p \quad -2p \\ \hline \end{array}$$

$$3p - 9 = 12$$

$$\begin{array}{r} +9 \quad +9 \\ \hline 3p = 21 \\ \hline \end{array}$$

$$\frac{3p}{3} = \frac{21}{3}$$

$$p = 7$$

$$\begin{array}{r} 5) \quad 3x = 27 - 15x \\ \quad +15x \quad +15x \\ \hline \quad 18x = 27 \\ \quad \frac{18x}{18} = \frac{27}{18} \\ \hline \quad x = \frac{3}{2} \end{array}$$

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

$$3 + 4p + 8 = 2p + 3p + 12$$

$$4p + 11 = 5p + 12$$

$$\begin{array}{r} -4p \quad -4p \\ \hline \end{array}$$

$$\begin{array}{r} 11 = p + 12 \\ -12 \quad -12 \\ \hline \end{array}$$

$$\begin{array}{r} -1 = p \end{array}$$

$$\begin{array}{r} \cancel{5x} + 2 = \cancel{5x} + 8 \\ \hline 2 = 8 \\ \text{no solution} \end{array}$$

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

infinitely many solutions

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

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

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

$$8 = 18$$

no solution