

I can: Solve Equations

Assignment: 1.3

Are $\cancel{4}x = 12$ and $\cancel{10}x = 30$ equivalent?

$$\frac{\cancel{4}}{4} \frac{12}{4}$$
$$x = 3$$

$$\frac{\cancel{10}}{10} \frac{30}{10}$$
$$x = 3$$

yes

Addition and multiplication principles

$$a = b \text{ then } a + c = b + c$$

$$a = b \text{ then } a * c = b * c$$

$$y - 4.7 = 13.9$$
$$\begin{array}{r} \cancel{4.7} \quad + 4.7 \\ y = 18.6 \end{array}$$

$$\frac{\cancel{8}}{\cancel{2}} \cdot \frac{\cancel{2}}{\cancel{5}} x = \frac{-9}{\cancel{10} \cdot 2} \cdot \frac{\cancel{5}}{\cancel{2}}$$
$$x = -\frac{9}{4}$$

$$\underline{3a} + \underline{5a^2} - \underline{7a} + \underline{1a^2}$$

$$6a^2 - 4a$$

$$3x + 2[4 + 5(x - 2y)]$$

$$3x + 2[4 + 5x - 10y]$$

$$3x + 8 + 10x - 20y$$
$$\boxed{13x - 20y + 8}$$

$$-(a - b) =$$

$$-a + b$$

$$-3x + 4$$

$$-(3x - 4)$$

$$9x - 5y - 1(5x + y - 7)$$

$$9x - 5y - 5x - y + 7$$
$$\boxed{-6y + 4x + 7}$$

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

$$5x - 2x + 10 = 7x - 2$$

$$3x + 10 = 7x - 2$$

$$\begin{array}{r} 3x + 10 = 7x - 2 \\ -10 \quad -10 \\ \hline 3x = 7x - 12 \end{array}$$

$$\begin{array}{r} 3x = 7x - 12 \\ -7x \quad -7x \\ \hline -4x = -12 \end{array}$$

$$\begin{array}{r} -4x = -12 \\ \frac{-4x}{-4} = \frac{-12}{-4} \end{array}$$

$$x = 3$$

Identity: $x + 5 = 3 + x + 2$

$$5 = 5$$

Contradiction: $n = n + 1$

$$0 \neq 1$$

Conditional: $3 - 8x = 5 - 7x$