

## Starter

Solve each of the following equations

$$1) 8x = 4x + 2(x + 6)$$

$$3) 2x - x - 2 = x + 2$$

$$2) 2x + 6 = 2x + 6$$

$$4) 2x + 1 = 4x - 9$$

Solve the following, write your answer in scientific notation

$$5) (9 \times 10^7) - (2 \times 10^5)$$

Answers

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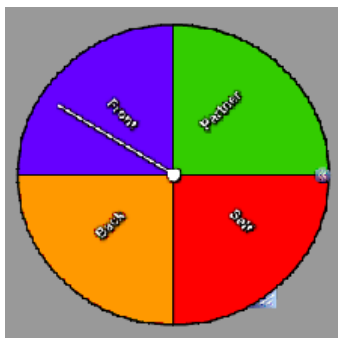
## Literal Equations WKS 1

Score = Completion + Accuracy

### Completion Points

- 5 points: 20 problems
- 4 points: 15-19 problems
- 3 points: 11-14 problems
- 2 points: 5-10 problems
- 1 point: 2-4 problems
- 0 points: 0-1 problems

### Accuracy Points



Sep 17-9:03 AM

# 13 Math 8 Unit 3

## Day 17: Literal Equations

### Objectives:

I can solve literal equations for a named variable.

$$-4k - 4$$

$$3k + 2 = 16$$

$$+2 +2$$

$$3k = 18$$

$$\div 3 \div 3$$

$$k = 6$$

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$$y = 2x + 10 \quad (\mathbf{x})$$

$$\begin{array}{r} -10 \quad -10 \\ \hline y - 10 = 2x \\ \hline \end{array} \quad \text{subtraction prop (=)}$$

$$\begin{array}{r} y - 10 = 2x \\ \hline \frac{y - 10}{2} = \frac{2x}{2} \\ \hline \end{array} \quad \text{division prop (=)}$$

$$\frac{y - 10}{2} = x$$

$$\frac{1}{2}x + y = 2 \quad (\mathbf{x})$$

$$\begin{array}{r} \frac{1}{2}x + y = 2 \\ -y \quad -y \\ \hline \frac{1}{2}x = 2 - y \end{array} \quad \text{subtraction prop (=)}$$

$$\begin{array}{r} \frac{1}{2}x = 2 - y \\ \hline \frac{\frac{1}{2}x}{\frac{1}{2}} = \frac{2 - y}{\frac{1}{2}} \\ \hline \end{array} \quad \text{div. prop (=)}$$

$$x = 2(2 - y)$$

$$x = 4 - 2y$$

$$-9x - yb = t \quad (\mathbf{b})$$

$$\begin{array}{r} +9x \quad +9x \\ \hline -9x - yb = t \\ +9x \quad +9x \\ \hline -yb = t + 9x \end{array} \quad \text{Addition prop (=)}$$

$$\begin{array}{r} -yb = t + 9x \\ \hline \frac{-yb}{-y} = \frac{t + 9x}{-y} \\ \hline \end{array} \quad \text{division prop (=)}$$

$$b = \frac{t + 9x}{-y}$$

$$x(y + 3) = z \quad (\mathbf{y})$$

$$\begin{array}{r} xy + 3x = z \\ -3x \quad -3x \\ \hline xy = z - 3x \end{array} \quad \begin{array}{l} \text{distributive} \\ \text{prop (=)} \\ \text{subtraction} \\ \text{prop (=)} \end{array}$$

$$\begin{array}{r} xy = z - 3x \\ \hline \frac{xy}{x} = \frac{z - 3x}{x} \\ \hline \end{array} \quad \text{division prop (=)}$$

$$y = \frac{z - 3x}{x}$$

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$$x + 3y = 10 \quad (y)$$

$$\begin{array}{r} -x \\ 3y = 10 - x \end{array} \quad \begin{array}{l} \text{Subtract} \\ \text{prop. (=)} \end{array}$$

$$\left. \begin{array}{l} 3y = 10 - x \\ \phantom{3y} \end{array} \right\} \begin{array}{l} \text{Div. Prop. (=)} \\ 3 \end{array}$$

$$x = \frac{10 - y}{3}$$

$$\frac{3 + x}{z} = 9 \quad (x)$$

$$\begin{array}{l} \text{Mult. Prop. (=)} \\ 3 + x = 9z \end{array}$$

$$\begin{array}{l} \text{Subtract. Prop. (=)} \\ x = 9z - 3 \end{array}$$

$$t + 9s = v \quad (s)$$

$$\begin{array}{r} -t \\ 9s = v - t \end{array} \quad \begin{array}{l} \text{Subtraction} \\ \text{Prop. (=)} \end{array}$$

$$\frac{9s = v - t}{9} \quad \text{Div. Prop. (=)}$$

$$s = \frac{v - t}{9}$$

$$g(3h + 2) = i \quad (h)$$

$$\frac{g(3h + 2) = i}{g} \quad \begin{array}{l} \text{Div. Prop. (=)} \\ 3h + 2 = \frac{i}{g} \end{array}$$

$$\begin{array}{r} -2 \\ 3h = \frac{i}{g} - 2 \end{array} \quad \begin{array}{l} \text{Subtract} \\ \text{Prop. (=)} \end{array}$$

$$\frac{3h = \frac{i}{g} - 2}{3} \quad \begin{array}{l} \text{Div. Prop. (=)} \\ h = \frac{\frac{i}{g} - 2}{3} \end{array}$$

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## Solving Literal Equations WKS 2

cross out 14 & 16

Nov 8-11:55 AM