

## 3-1 Solving Literal Equations

Objective: I can solve an equation with 2 or more variables for any specific variable in the equation.

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https://docs.google.com/document/d/12GDno5nSv31RccJMrnzSQ44mCQrEjJWBMBdOeSv\_jzk/edit

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1 2 3 4 5 6 7

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Note:  
Literal equations - An equation that has 2 or more variables.

★

1.  $V = lwh$  solve for  $w$ .

$$\frac{V}{lh} = w$$

2.  $I = prt$  Solve for  $t$

~~$I = prt$~~

$$\frac{I}{pr} = t$$



Solve the following equations for y.

3.  $2y + 5x = 6$

$-5x \quad -5x$

$\frac{2y}{2} = \frac{-5x + 6}{2}$

$y = -\frac{5}{2}x + 3$

$$\begin{array}{r}
 4. \quad 4x - 4y = 1 \\
 \underline{-4x} \qquad \quad \quad \quad \underline{-4x} \\
 \hline
 -4y = -4x + 1 \\
 \underline{\quad} \quad \quad \quad \underline{-4} \quad \underline{-4} \\
 y = x - \frac{1}{4}
 \end{array}$$

$$5. 5(x + y) = 10 + x$$

$$\begin{array}{r} \cancel{5x} + 5y = 10 + x \\ -5x \qquad \qquad \qquad -5x \\ \hline \end{array}$$

$$\frac{5y}{5} = \frac{-4x + 10}{5}$$

$$y = \frac{-4}{5}x + 2$$

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6.  $6x + 3y - 12 = 18x$

<del><math>6x</math></del>	<del><math>-6x</math></del>
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<del><math>3y - 12</math></del>	<del><math>= 12x</math></del>
<del><math>+12</math></del>	<del><math>+12</math></del>

<del><math>3y</math></del>	<del><math>=</math></del>	<del><math>12x</math></del>	<del><math>+</math></del>	<del><math>12</math></del>
$\frac{3y}{3}$		$\frac{12x}{3}$		$\frac{12}{3}$

$$y = 4x + 4$$



$$7. \left( \frac{2}{5}y - \frac{3}{5}x = -4 \right)$$

$$2y - 3x = -20$$

$$+ 3x \quad + 3x$$

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$$\frac{2y}{2} = \frac{3x - 20}{2}$$

$$y = \frac{3}{2}x - 10$$

$$\frac{5}{1} \cdot \frac{2}{5} = \frac{5 \cdot 2}{1 \cdot 5} = \frac{2}{1}$$

$$\frac{5}{1} \cdot \frac{3}{5} = \frac{5 \cdot 3}{1 \cdot 5} = \frac{3}{1}$$



$$8. \left( \frac{3}{4}x - \frac{1}{8}y = \frac{1}{2} \right)$$

$$\begin{array}{r} \cancel{6x} - y = 4 \\ -6x \phantom{- y} = -6x \end{array}$$


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$$-(-y = -6x + 4)$$

$$y = 6x - 4$$

4 8 2

8

16

24

32

$$\frac{8}{1} \cdot \frac{3}{4} = \frac{8 \cdot 3}{1 \cdot 4} = \frac{6}{1}$$

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

$$\frac{8}{1} \cdot \frac{1}{2} = \frac{4 \cdot 1}{1 \cdot 2} = \frac{4}{1}$$

Save



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