

Solving Equations for a Variable

The goal of solving an equation is to _____.

Order of Operations

<p>When working out $2 + 3 * 7$ is the answer 35 or 23?</p>	<p>Order of Operations</p> <table border="1" style="width: 100%; height: 100%;"> <tr><td colspan="2" style="height: 40px;"></td></tr> <tr><td colspan="2" style="height: 40px;"></td></tr> <tr><td style="width: 50%; height: 40px;"></td><td style="width: 50%; height: 40px;"></td></tr> <tr><td style="width: 50%; height: 40px;"></td><td style="width: 50%; height: 40px;"></td></tr> </table>									<p>Simplify $(8^2 - 2^5) \div (24 \div 6) + 3^2$</p>

Multi-Step Equations

<ol style="list-style-type: none"> 1. If necessary, simplify the expressions on each side of the equation, including combining like terms. 2. Get all variable terms on one side and all numbers on the other side 3. Isolate the variable term using the inverse operations. 4. Check your solution by substituting the value of the variable in the original equation. 	$6(x + 3) - (x + 4) = -11$	$10 = \frac{y}{3} + 6$
	$-4(2x + 1) = -8x - 2$	$-5 - 9x = 3(1 - 3x) - 8$

Proportions

<p>1: Applying cross multiplication</p> <p>2: Make an equation</p> <p>3: Solve for variable using inverse operations</p>	$\frac{n - 6}{3} = \frac{n - 2}{9}$	$\frac{10}{2x + 4} = \frac{4}{x + 5}$
---	-------------------------------------	---------------------------------------

Literal Equations

<p>Step 1: Read the problem to find out which variable you need to solve for.</p> <p>Step 2: Isolate that variable using the steps.</p>	<p>Solve for x:</p> $6 = mx + b$	<p>Solve for a:</p> $2(a - c) = 4a$
	<p>Solve for l:</p> $P = 2l + 2w$	<p>Solve for t:</p> $A = P + Prt$