Vocabulary: Solving Formulas for any Variable

Vocabulary

- <u>Formula</u> – a rule or relationship between variables, usually expressed as an equation.
  - For example, the area of a rectangle is the product of its length and width (often abbreviated, $A = lw$).

- <u>Solve</u> – to find the answer to a problem.
  - For example, to solve the equation $3x + 4 = 7$, isolate x to find the value of x that makes the equation true.

$$3x + 4 = 7$$
$$3x + 4 - 4 = 7 - 4 \qquad \text{Isolate } 3x \text{ by subtracting 4 from each side.}$$
$$3x = 3 \qquad \text{Simplify.}$$
$$\frac{3x}{3} = \frac{3}{3} \qquad \text{Isolate } x \text{ by dividing each side by 3.}$$
$$x = 1 \qquad \text{Simplify. The solution is 1.}$$

  - For example, to solve the formula $A = lw$ for l, isolate l.

$$A = lw$$
$$\frac{A}{w} = l \qquad \text{Isolate } l \text{ by dividing each side by } w.$$