

Rewriting Literal Equations

An equation that has two or more variables is called a **literal equation**. To rewrite a literal equation, solve for one variable in terms of the other variable(s).

Solve the literal equation $3y + 4x = 9$ for y .

Solve the literal equation for y .

$$2x - 2y = 5$$

Solve the literal equation for y .

$$20 = 8x + 4y$$

Solve the literal equation for x.

$$y = 5x - 4x$$

Solve the literal equation for x .

$$2x + kx = m$$

Solve the literal equation for x.

$$y = 3x + 5xz$$

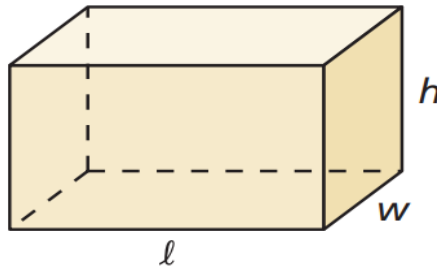
Solve the literal equation for x .

$$3 + 5x - kx = y$$

Rewriting and Using Formulas for Area

A **formula** shows how one variable is related to one or more other variables. A formula is a type of literal equation.

The formula for the surface area S of a rectangular prism is $S = 2\ell w + 2\ell h + 2wh$. Solve the formula for the length ℓ .



If $S = 171in^2$ and $w = 3in$ and $h = 4in$, what is the value of l .

You own a rectangular lot that is 500 feet deep. It has an area of 100,000 square feet. To pay for a new water system, you are assessed \$5.50 per foot of lot frontage. How much are you assessed for the new water system?

