

# Solving Literal Equations and Formulas



## Overview of problems



Example Set: A

Solve the following equation for the given variable

$$F = ma \quad \text{solve for } a$$

$$A = lw \quad \text{solve for } l$$

$$P = R - C \quad \text{solve for } R$$

$$P = 2w + 2L \quad \text{solve for } L$$



## Example Set: B

Solve the following equation for the given variable

$$V = \pi r^2 h$$

*solve for h*

$$L = a + (n - 1)d$$

*solve for n*

$$A = \frac{1}{2}h(b_1 + b_2)$$

*solve for b<sub>1</sub>*



## Example Set: C

Solve the following equation for the given variable

$$S = \frac{rL - a}{r - 1} \quad \text{solve for } r$$

$$y = mx + b \quad \text{solve for } m$$



## Example Set: D



Given Albert Einstein's famous formula for the Theory of Relativity, rewrite the equation in terms of ***m*** and then in terms of ***c***.

$$E = mc^2$$

# Solving Literal Equations and Formulas



## Overview of problems- KEY



Example Set: A

Solve the following equation for the given variable

$$F = ma \quad \text{solve for } a \quad a = \frac{F}{m}$$

$$A = lw \quad \text{solve for } l \quad l = \frac{A}{w}$$

$$P = R - C \quad \text{solve for } R \quad R = P + C$$

$$P = 2w + 2L \quad \text{solve for } L \quad L = \frac{P - 2w}{2}$$



## Example Set: B

Solve the following equation for the given variable

$$V = \pi r^2 h$$

solve for  $h$

$$h = \frac{V}{\pi r^2}$$

$$L = a + (n-1)d$$

solve for  $n$

$$n = \frac{(L - a + d)}{d}$$

$$A = \frac{1}{2}h(b_1 + b_2)$$

solve for  $b_1$

$$b_1 = \frac{2A - hb_2}{h}$$



## Example Set: C

Solve the following equation for the given variable

$$S = \frac{rL - a}{r - 1}$$

solve for  $r$

$$r = \frac{S - a}{S - L}$$

$$y = mx + b$$

solve for  $m$

$$m = \frac{(y - b)}{x}$$



## Example Set: D

$$c = \sqrt{\frac{E}{m}}$$



Given Albert Einstein's famous formula for the Theory of Relativity, rewrite the equation in terms of  $m$  and then in terms of  $c$ .

$$E = mc^2$$