

Practice Assignment

Rewrite each equation in terms of the indicated (Letter).

1.  $E = \frac{mc^2}{c^2}$  for (m)

$$\frac{E}{c^2} = m$$

2.  $A = \frac{bh}{2}$  for (b)

$$\frac{2A}{h} = \frac{bh}{h}$$

$$\frac{2A}{h} = b$$

3.  $S = \frac{2\pi r^2 h}{2\pi r}$  for (h)

$$\frac{S}{2\pi r} = h$$

4.  $v^2 m = \frac{2E}{v^2}$  for (E)

$$\frac{v^2 m}{2} = \frac{2E}{2}$$

$$\frac{v^2 m}{2} = E$$

5.  $6x - 3y = 15$  for (y)

$$\frac{-3y}{-3} = \frac{15 - 6x}{-3}$$

$$y = -5 + 2x$$

6.  $-9x - 3y = 6$  for (y)

$$\frac{-3y}{-3} = \frac{6 + 9x}{-3}$$

$$y = -2 - 3x$$

7.  $P = \frac{2l + 2w}{2}$  for (w)

$$\frac{P - 2l}{2} = \frac{2w}{2}$$

$$\frac{P - 2l}{2} = w \quad \text{or} \quad \frac{P}{2} - l = w$$

8.  $-15x + 5y = -25$  for (y)

$$\frac{5y}{5} = \frac{-25 + 15x}{5}$$

$$y = -5 + 3x$$

9.  $V = \frac{1}{3}Bh$  for (h)

$$\frac{3}{1} \cdot \frac{V}{B} = \frac{V}{B} h \cdot \frac{3}{1}$$

$$\frac{3V}{B} = h$$

10.  $s = \frac{w - 10e}{m}$  for (w)

$$ms = w - 10e$$

$$\frac{ms + 10e}{+10e} = \frac{w - 10e}{+10e}$$

$$ms + 10e = w$$

11.  $A = h(b + c)$  for (b)

$$\frac{A}{h} = b + c$$

$$\frac{A}{h} - c = b$$

12.  $V = \pi r^2 h$  for (h)

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

13. In the United States, we measure the temperature in degree Fahrenheit. However most of the other countries in the world use degrees Celsius. The formula for converting to Fahrenheit is given below.

a. Solve the formula  $F = \frac{9}{5}C + 32$  for C.

$$F = \frac{9}{5}C + 32$$

$$F - 32 = \frac{9}{5}C$$

$$\frac{5}{9}(F - 32) = C$$

b. Using your new formula, if the temperature is 35 degrees Fahrenheit, what is the temperature in Celsius?

$$\frac{9}{5} \cdot 35 = \frac{5}{9}(F - 32) \cdot \frac{9}{5}$$

$$63 = F - 32$$

$$+32 \quad +32$$

$$F = 95 \text{ } ^\circ\text{F}$$

14. The formula to compute a person's body mass index is  $B = \frac{703w}{h^2}$ . B represents the body mass index, w is the person's weight in pounds, and h represents the person's height in inches.

a. Solve the formula for w.

$$\frac{h^2}{703} \cdot B = \frac{703w}{h^2} \cdot \frac{h^2}{703}$$

$$\frac{Bh^2}{703} = w$$

b. What is the weight, to the nearest pound, of a person who is 64 inches tall and has a body mass index of 21.45?

~~$$w = 21.45(64^2)$$~~

$$w = \frac{21.45(64)^2}{703}$$