

## Paper Practice 2.7

### Using Formulas

#### Examples 1 and 2

Solve each equation or formula for the variable indicated.

1.  $2a - 3b = 4$ , for  $b$

2.  $-m + 5n = -2$ , for  $n$

3.  $6c + 2d = 7$ , for  $c$

4.  $5x - 8y = 1$ , for  $y$

5.  $t = 7g$ , for  $g$

6.  $v + 8w = 4v$ , for  $v$

7.  $9p - 3q = 4q$ , for  $q$

8.  $10s + 6t = 3s$ , for  $s$

9.  $p = st + r$ , for  $t$

10.  $2a - b = 4c$ , for  $a$

11.  $2j = \frac{2}{5}k - m$ , for  $k$

12.  $6x - \frac{7}{9}y = z$ , for  $y$

13.  $\frac{5cd+b}{8} = 2$ , for  $d$

14.  $\frac{pq+7}{2} = n$ , for  $p$

**Example 3**

**15. TEMPERATURE** The formula  $C = \frac{Wtc}{1000}$  represents the cost  $C$  in cents to operate an electrical device, where  $W$  is the wattage of the device,  $t$  is the time in hours that the device is in use, and  $c$  is the cost in cents per kilowatt-hour.

- a. Solve the formula for  $W$ .
- b. If the cost to operate a device for 5 hours is \$0.1875 and the cost per kilowatt hour is \$0.15, find the wattage of the device.

**16. VOLUME** The formula for the volume of a cone is  $V = \frac{1}{3}\pi r^2 h$ , where  $V$  is the volume,  $r$  is the radius of the base, and  $h$  is the height.

- a. Solve the formula for  $h$ .
- b. What is the height of a cone with a volume of 1017.36 square inches and a radius of 6 inches? Use 3.14 to approximate  $\pi$ .

**Example 4**

**17. SHOPPING** Sang buys hats and T-shirts as gifts for his friends while on vacation. The total cost  $C$  in dollars of buying  $h$  hats and  $t$  T-shirts is  $C = 10h + 15t$ .

- a. Sang has \$120 to spend on gifts. Describe the constraints.
- b. Solve for  $h$ .
- c. He needs to buy 4 T-shirts. How many hats can he buy?