

Name \_\_\_\_\_

**Solve each equation or formula for the variable indicated.**

1.  $u = vw + z$ , for  $v$

4.  $\frac{10ac - x}{11} = -3$ , for  $a$

2.  $fg - 9h = 10j$ , for  $g$

5.  $-14n + 1 = rt - 4n$ , for  $n$

3.  $r = \frac{2}{3}t + v$ , for  $t$

6.  $ax + z = aw - y$ , for  $a$

7. The formula to compute a person's body mass index is  $B = 703 \cdot \frac{W}{h^2}$ .  $B$  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  $w$ .

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?

8. Acceleration is the measure of how fast a velocity is changing. The formula for acceleration is  $a = \frac{v_f - v_i}{t}$ .  $a$  represents

the acceleration rate,  $v_f$  is the final velocity,  $v_i$  is the initial velocity, and  $t$  represents the time in seconds.

a. Solve the formula for  $v_f$ .

b. What is the final velocity of a runner who is accelerating at 2 feet per second squared for 3 seconds with an initial velocity of 4 feet per second?

**Write an equation and solve for the variable indicated.**

9. Ten plus eight times a number  $a$  equals eleven times another number  $d$  minus six. Solve for  $a$ .

10. Three fourths of a number  $p$  less two is five sixths of another number  $r$  plus five. Solve for  $r$ .