

## Literal Equations Practice Worksheet

Name \_\_\_\_\_ Date \_\_\_\_\_

Rewrite each equation to isolate the indicated variable.

1.  $7ab = c$  solve for a \_\_\_\_\_

2.  $y = 4x + 6$  solve for x \_\_\_\_\_

3.  $df = g + 32$  solve for d \_\_\_\_\_

4.  $1.5s - 4 = t$  solve for s \_\_\_\_\_

Choose the best answer.

5. Which of the following is equivalent to the equation  $4x + 7y = z$ ?

A.  $x = 4z - 28y$

B.  $x = \frac{(z - 7y)}{4}$

C.  $y = 7z + 28x$

D.  $y = \frac{(z + 4x)}{7}$

6. Which of the following is NOT equivalent to the equation  $a + 3b = 5c - 9$ ?

A.  $a = 5c - 9 - 3b$

B.  $b = -\frac{1}{3}(5c - 9 - a)$

C.  $5 = \frac{(a + 3b + 9)}{c}$

D.  $3 = \frac{(5c - 9 - a)}{b}$

Solve the following word problems.

7. Ohm's law of electricity states that  $V = IR$ , where  $V$  is voltage,  $I$  the current, and  $R$  represents the resistance.

a. Rewrite the equation to isolate  $I$ . \_\_\_\_\_

b. If  $V = 220$  volts and  $R = 4$  ohms, what is the value for  $I$ ? \_\_\_\_\_ amperes.

c. Rewrite the equation to isolate  $R$ . \_\_\_\_\_

d. If  $V = 550$  volts and  $I = 1.5$  amperes, what is the value of  $R$ ? \_\_\_\_\_ ohms

8. In order to aerate and laser-grade a baseball field, a contractor charges \$350, plus \$25 per hour for a job. The equation  $C = 25h + 350$  describes the cost,  $c$  for a job that takes  $h$  hours.

a. Rewrite the equation to isolate  $h$ . \_\_\_\_\_

b. If a job cost \$950, how many hours did it take? \_\_\_\_\_

9. At Turner Field, hot dogs cost \$2.25 and drinks cost \$1.75. The total cost,  $t$ , for  $h$  hot dogs and  $s$  sodas can be described by the equation  $t = 2.25h + 1.75d$ .

a. Rewrite the equation to isolate  $d$ . \_\_\_\_\_

b. If Cooper spent \$18.25 and bought 5 hot dogs, how many sodas did he buy?

\_\_\_\_\_

10. The weight, in newtons, of an object in a particular location is equal to its mass, in kilograms, times the gravitational acceleration in that location. As a formula, this is written  $w = mg$ , where  $w$  = weight,  $m$  = mass, and  $g$  = gravitational acceleration.

a. Neil Armstrong had a mass of 80 kg on Earth. On Earth's surface, the gravitational acceleration is  $g = 10$  newtons per kilogram. What was Neil's weight on Earth?

b. Rewrite the equation to isolate  $g$ . \_\_\_\_\_

c. On the surface of the moon, Neil Armstrong's weight is 128 newtons. What is the gravitational acceleration on the moon? \_\_\_\_\_ newtons per kilogram.

11. The distance formula is  $d = rt$ , where  $d$  is the distance,  $r$  is the rate, and  $t$  is the time.

a. Rewrite the equation to isolate  $r$ . \_\_\_\_\_

b. Brad drove from Athens to Atlanta in 1.5 hours, 72 miles away, before he flew out for Kansas City. What was his rate of speed in miles per hour? \_\_\_\_\_