

2-8 Skills Practice

Literal Equations and Dimensional Analysis

Solve each equation or formula for the variable indicated.

1. $7t = x$, for t $t = \frac{x}{7}$

2. $r = wp$, for p $p = \frac{r}{w}; w \neq 0$

3. $q - r = r$, for r $r = \frac{q}{2}$

4. $4m - t = m$, for m $m = \frac{t}{3}$

5. $7a - b = 15a$, for a $a = -\frac{b}{8}$

6. $-5c + d = 2c$, for c $c = \frac{d}{7}$

7. $x - 2y = 1$, for y $y = \frac{x-1}{2}$

8. $d + 3n = 1$, for n $n = \frac{1-d}{3}$

9. $7f + g = 5$, for f $f = \frac{5-g}{7}$

10. $ax - c = b$, for x $x = \frac{b+c}{a}; a \neq 0$

11. $rt - 2n = y$, for t $t = \frac{2n+y}{r}; r \neq 0$

12. $bc + 3g = 2k$, for c $c = \frac{2k-3g}{b}; b \neq 0$

13. $kn + 4f = 9v$, for n $n = \frac{9v-4f}{k}; k \neq 0$

14. $8c + 6j = 5p$, for c $c = \frac{5p-6j}{8}$

15. $\frac{x-c}{2} = d$, for x $x = c + 2d$

16. $\frac{x-c}{2} = d$, for c $c = x - 2d$

17. $\frac{p+9}{5} = r$, for p $p = 5r - 9$

18. $\frac{b-4z}{7} = a$, for b $b = 7a + 4z$

19. The volume of a box V is given by the formula $V = \ell wh$, where ℓ is the length, w is the width, and h is the height.

a. Solve the formula for h . $h = \frac{V}{\ell w}$

b. What is the height of a box with a volume of 50 cubic meters, length of 10 meters, and width of 2 meters?

2.5 m

20. Trent purchases 44 euros worth of souvenirs while on vacation in France. If \$1 U.S. = 0.678 euros, find the cost of the souvenirs in United States dollars. Round to the nearest cent.

\$64.90