Oral Exercises

Solve each equation for the variable shown in color.

1. $b = ax$; x **2.** $b = x + a$; x **3.** $c = ax - b$; x

4. $s = a + b + c$; c **5.** $a = \dfrac{x}{b^2}$; x **6.** $C = \dfrac{mv^2}{r}$; r

7. $V = Bh$; B **8.** $d = rt$; r **9.** $E = mc^2$; m

10. $F = \dfrac{mv^2}{r}$; r **11.** $A = \dfrac{1}{2}bh$; b **12.** $R = \dfrac{kl}{d^2}$; l

Written Exercises

Solve the given formula for the variable shown in color. State the restrictions, if any, for the formula obtained to be meaningful.

A   **1.** $C = 2\pi r$; r **2.** $F = ma$; a **3.** $s = \dfrac{v}{r}$; r **4.** $d = \dfrac{m}{v}$; v

     5. $I = Prt$; P **6.** $A = P + Prt$; t **7.** $A = 2a^2 + 4ah$; h **8.** $s = vt + 16t^2$; v

     9. $A = \dfrac{1}{2}h(a + b)$; h **10.** $S = \dfrac{n}{2}(a + l)$; n **11.** $p = 2(l + w)$; w

    12. $A = P(1 + rt)$; r **13.** $m = \dfrac{x + y}{2}$; y **14.** $a = \dfrac{v - u}{t}$; v

B   **15.** $S = \dfrac{n}{2}(a + l)$; a **16.** $C = \dfrac{5}{9}(F - 32)$; F **17.** $a = \dfrac{v - u}{t}$; t

    18. $m = \dfrac{x + y + z}{3}$; y **19.** $v^2 = u^2 + 2as$; s **20.** $s = \dfrac{n}{2}(a + l)$; l

    21. $S = \dfrac{a}{a - r}$; r **22.** $l = a + (n - 1)d$; n **23.** $F = \dfrac{fg}{f + g - d}$; d

    24. $S = \dfrac{a - rl}{1 - r}$; l **25.** $a = \dfrac{180(n - 2)}{n}$; n **26.** $S = \dfrac{r}{1 - r}$; r

C   **27.** $r = \dfrac{ab}{a + b}$; a **28.** $F = \dfrac{fg}{f + g - d}$; f **29.** $C = K\left(\dfrac{Rr}{R - r}\right)$; R

Mixed Review Exercises

Simplify.

1. $(y - 5)(y + 3)$ **2.** $(3n - 2)(2n - 4)$ **3.** $a[2a - 4(2 + a)]$ **4.** $xy(2x + 3y)$

5. $4x(x^2 - 3x + 2)$ **6.** $(-3x^3)^3$ **7.** $n^2 \cdot n^2 \cdot n^2$ **8.** $(3a^2)^2 \cdot 4a^3b$