

Evaluate the expression.

1.  $2^4 \cdot 3 - 16 \div 4$  (p. 8)

2.  $|-125| - 34$  (p. 80)

3.  $\pm\sqrt{2025}$  (p. 110)

Solve the equation.

4.  $7 - 2x = 13$  (p. 141)

5.  $-8x + 15 + 5x = 9$  (p. 148)

6.  $5(2x + 3) = 4x$  (p. 154)

Graph the equation.

7.  $x = 7$  (p. 215)

8.  $y = 2x + 3$  (p. 244)

9.  $4y - 2x = 1$  (p. 244)

Write an equation in slope-intercept form of the line with the given characteristics.

10. passes through  $(-2, -8)$   
and  $(3, -5.5)$  (p. 292)

11. slope:  $-8$ ;  
passes through  $(1, -5)$  (p. 292)

Solve the inequality. Graph your solution.

12.  $4x - 6 \leq 8x - 2$  (p. 369)

13.  $-2 \leq x - 6 < 18$  (p. 380)

14.  $2x < 6$  or  $4x \geq 8$  (p. 380)

Solve the linear system.

15.  $x = 4y + 3$  (p. 435)  
 $2x - 4y = 7$

16.  $3x - 7y = 20$  (p. 451)  
 $-11x + 10y = 5$

17.  $-9x + 6y = 0$  (p. 451)  
 $-12x + 8y = 5$

Simplify the expression. Write your answer using only positive exponents.

18.  $(2x^3)^4 \cdot x^9$  (p. 489)

19.  $(-9x^3)^2 \left(-\frac{1}{4}x^6\right)$  (p. 489)

20.  $\frac{(3x)^{-3}y^3}{x^2y^{-1}}$  (p. 503)

Factor the polynomial.

21.  $a^2 - 15a - 54$  (p. 583)

22.  $-3b^2 - 22b - 7$  (p. 593)

23.  $4f^2 + 4fg + g^2$  (p. 600)

24.  $p^2(p - 5) + 9(5 - p)$  (p. 606)

Solve the equation.

25.  $(x + 7)(x - 3) = 0$  (p. 575)

26.  $9x^2 - 28x + 3 = 0$  (p. 652)

27.  $8x^2 + 7 = 36x - 9$  (p. 661)

28.  $\sqrt{x + 8} + 10 = 2$  (p. 729)

Find the distance between the two points. (p. 744)

29.  $(5, 2), (7, 14)$

30.  $(-8, 6), (5, 0)$

31.  $(2.5, 7), (2.5, -8)$

Find the sum, difference, product, or quotient.

32.  $\frac{x-2}{x+5} \cdot \frac{x+5}{x-8}$  (p. 802)

33.  $\frac{x^3 - 16x}{x^2 + 3x} \div (x - 4)$  (p. 802)

34.  $\frac{16}{2x^4} \cdot \frac{7x^3}{2x}$  (p. 802)

35.  $\frac{2x}{3-x} + \frac{x-9}{3-x}$  (p. 812)

36.  $\frac{1}{x+6} + \frac{4x}{x+6}$  (p. 812)

37.  $\frac{9}{x^2 - 3x} - \frac{3}{x - 3}$  (p. 812)

Evaluate the expression.

38.  ${}_6P_1$  (p. 851)

39.  ${}_8P_3$  (p. 851)

40.  ${}_7C_3$  (p. 856)

41.  ${}_{10}C_6$  (p. 856)