

Simplify the expression. (p. 10)

1. $3x^2 - 8x + 12x - 5x^2 + 3x$ 2. $15x - 6x + 10y - 3y + 4x$ 3. $3(x + 2) - 4x^2 + 3x + 9$

Solve the equation. Check your solution.

4. $6x - 7 = -2x + 9$ (p. 18) 5. $4(x - 3) = 16x + 18$ (p. 18) 6. $\frac{1}{3}x + 3 = -\frac{7}{2}x - \frac{3}{2}$ (p. 18)

7. $|x + 3| = 5$ (p. 51) 8. $|4x - 1| = 27$ (p. 51) 9. $|9 - 2x| = 41$ (p. 51)

Solve the inequality. Then graph the solution.

10. $6(x - 4) > 2x + 8$ (p. 41) 11. $3 \leq x - 2 \leq 8$ (p. 41) 12. $2x < -6$ or $x + 2 > 5$ (p. 41)

13. $|x - 4| < 5$ (p. 51) 14. $|x + 3| \geq 15$ (p. 51) 15. $|6x + 1| < 23$ (p. 51)

Find the slope of the line passing through the given points. Then tell whether the line rises, falls, is horizontal, or is vertical. (p. 82)

16. (3, 2), (-1, -5) 17. (-7, 4), (5, -3) 18. (-4, -6), (-4, 4) 19. $(-\frac{5}{4}, 3), (\frac{2}{3}, 3)$

Graph the equation or inequality.

20. $y = 3x + 5$ (p. 89) 21. $x = -6$ (p. 89) 22. $-x + 4y = 16$ (p. 89)

23. $y = 2|x|$ (p. 123) 24. $y = |x - 3|$ (p. 123) 25. $y = -4|x| + 5$ (p. 123)

26. $y \leq x - 7$ (p. 132) 27. $2x + y > 1$ (p. 132) 28. $2x - 5y \geq -15$ (p. 132)

Graph the relation. Then tell whether the relation is a function. (p. 72)

29.

x	-4	-2	0	2	4
y	-1	0	1	2	3

30.

x	4	-2	1	1	-3
y	-2	0	1	4	3

Solve the system using any algebraic method.

31. $4x - 3y = 32$
 $-2x + y = -14$ (p. 160)

32. $5x - 2y = -4$
 $3x + 6y = 36$ (p. 160)

33. $x - y + 2z = -4$
 $3x + y - 4z = -6$
 $2x + 3y + z = 9$ (p. 178)

Use the given matrices to evaluate the expression. (p. 195)

$$A = \begin{bmatrix} -2 & 6 \\ 1 & 4 \end{bmatrix}, B = \begin{bmatrix} 3 & -1 \\ 5 & 2 \end{bmatrix}, C = \begin{bmatrix} -4 & 8 \\ -7 & 12 \end{bmatrix}, D = \begin{bmatrix} 1 & 0 & -4 \\ -2 & 3 & -1 \end{bmatrix}$$

34. $B - 3A$

35. $2(A + B) - C$

36. $(C - A)B$

37. $(B + C)D$

Find the inverse of the matrix. (p. 210)

38. $\begin{bmatrix} 5 & 4 \\ 4 & 3 \end{bmatrix}$

39. $\begin{bmatrix} 6 & 9 \\ -3 & -4 \end{bmatrix}$

40. $\begin{bmatrix} -2 & 2 \\ 4 & 1 \end{bmatrix}$

41. $\begin{bmatrix} -5 & 8 \\ 2 & -8 \end{bmatrix}$

42. **CITY PARK** A triangular section of a city park is being turned into a playground. The triangle's vertices are (0, 0), (15, 10), and (8, 25) where the coordinates are measured in yards. Find the area of the playground. (p. 203)