1. Evaluate when \( x = 3, \ y = -1 \) and \( z = 2 \).

\[ 2xy - 3yz \]

2. Simplify: \(-2[3x - 2(x^2 - 4)]\).

3. Simplify and write with positive exponents:

\[ \left(\frac{9x^3}{3x^{-3}y^2}\right)^3 \]

4. Solve:

\[ 3 - 2(3x - 1) = 7 - 2x. \]

5. The perimeter of a rectangular flower bed is 48 feet. If the length is 3 times the width, find the dimensions of the flower bed.
6. Kevin invested $2000 for one year. He earned $129 interest. How much was invested at each rate if some of the money was invested at 6% and the remainder at 8%?

7. Solve: \( A = \frac{1}{2}bh \) for \( h \).

8. Solve: \( |3x - 4| = 5 \).

9. Solve and graph: \( |3x - 1| \leq 8 \).

10. What amount must Maria invest at 4 percent interest per year to earn at least $322 in one year?

11. Graph: \( x + 3y = 6 \).
12. Find an equation for the line through the points (-3, -1) and (-5, 2).

13. Find an equation for the line through the point (3, -2) and perpendicular to the line 4y = 3x - 7.

14. At a constant speed, the relationship between the distance an automobile travels and the time it travels is linear. If the automobile travels 292.5 miles in 4.5 hours and 455 miles in 7 hours, write an equation relating distance traveled d to time t.

15. Graph: 3x - 2y = 8.

16. Solve: 2x - 5y = 3
   3x - 2y = 10.

17. How much 30% salt solution and 55% salt solution should be mixed together to make 12 gallons of a 40% solution?

18. Solve:
   
   \begin{align*}
   3x - y - z &= 2 \\
   2x + 3y + 4z &= 7 \\
   x + y + 3z &= 6.
   \end{align*}
19. The sum of the angles of a triangle is 180°. The second angle is three times as large as the first. The third angle is 20 degrees less than twice the second. Find the three angles.

20. Evaluate: i.e., find the determinant

\[
\begin{vmatrix}
3 & 1 & 0 \\
2 & 3 & 1 \\
-1 & 0 & 4
\end{vmatrix}
\]

21. Find the degree of the polynomial:

\[6x^7 - 5x^4 + 3,\]

22. Subtract:

\[(-7x^2 - 2x + 5) - (-9x^2 + 3x - 2),\]

Multiply.

23. \[(2x^2 - 3x - 1)(x - 4)\]
24. \((3x + 2)(3x - 2)\)

25. Find the domain: \(y = \sqrt{x - 3}\).

Factor.

26. \(25x^2 + 10x + 1\)

27. \(9x^4 - 9y^4\)

28. \(27x^3 - 8y^3\)

29. Solve: \(x^2 + 3x = 0\).

30. Divide and simplify:
\[
\frac{x^2 - 9}{x - 4} \div \frac{2x + 6}{2x^2 - 5x - 12}
\]
31. Perform the operations and simplify:

\[
\frac{3}{2x - 1} + \frac{4}{x + 3} - \frac{2}{2x^2 + 5x - 3}
\]

32. If \( f(x) = x^2 - 3x + 4 \), find \( f(-2) \).

33. Solve:

\[
\frac{6}{x + 3} - \frac{9}{x + 3} = -1
\]

34. Solve:

\[
A = \frac{P}{1 - rn}
\]

for \( n \).

35. The strength of a rectangular beam varies jointly as its width and the square of its depth. If the strength of a beam 1 inch wide and 5 inches deep is 125 pounds, find the strength of a beam 2 inches wide and 6 inches deep.

36. Subtract:

\[2\sqrt{20} - 3\sqrt{80} \]
1. 0
2. \(-2x - 16\)
3. \(27x^6y^3\)
4. \(-\frac{1}{2}\)
5. 16 ft. by 18 ft.
6. $1550 at 6\%;$450 at 8\%
7. \(h = \frac{24}{b}\)
8. 3; \(-\frac{1}{3}\)
9. \(-\frac{2}{3} \leq x \leq 3\)
10. $8050

11. \(y = \frac{1}{3}x + 2\)
12. \(y = -\frac{1}{2}x - \frac{11}{2}\)
13. \(y = -\frac{1}{4}x + 2\)
14. \(d = 65t\)

15. \(y = (3/2)x - 4\)
16. \((4, \, i, \, j)\)
17. 7.2 gallons of 30\%; 4.8 gallons of 55\%
18. \((1, \, -1, \, 2)\)
19. \(20^\circ, \, 60^\circ, \, 100^\circ\)
20. 27
21. 7
22. $2x^2 - 5x + 7$
23. $2x^3 - 11x^2 + 11x + 4$
24. $9x^2 - 4$
25. $x \geq 3$
26. $(5x + 1)^2$
27. $9(x^2 + y^2)(x + y)(x - y)$
28. $(3x - 2y)(9x^2 + 6xy + 4y^2)$
29. $0; -3$
30. $\frac{(x-3)(2x+3)}{2}$
31. $\frac{11x+1}{(2x-1)(x+3)}$
32. 14
33. 0
34. $n = \frac{P - A}{-Ar}$
35. 360 pounds
36. $-8\sqrt{5}$
37. $4 \pm 3\sqrt{2}$
38. $\frac{3 \pm \sqrt{29}}{2}$
39. $y = x^2 - 6x + 8$
40. 25
41. $(-\infty, -5)(-2, \infty)$
42. $4x^2y^3$