1. Simplify \((pq^3)(pq)^5\)
2. \(2^6 \cdot 2^7\)
3. \(\frac{24m^3p^2}{4m^9p}\)
4. \((w^3z)^2 (w^5z^2)\)
5. Evaluate the polynomial \(-3x^2 - 2x + 4\) for \(x = -3\).
6. Add \((3a^3 - 5a^2 + (9a^3 + 7a^2)\)
7. Multiply \((2x^2 - 4x + 4)(2x - 1)\)
8. Multiply \((4x - 8)(x - 4)\)
9. Multiply \((-7x^5)(5x^4)(6x^2)\)
10. Multiply \(\left(x + \frac{2}{3}\right) \left(3x - \frac{2}{3}\right)\)
11. Multiply \((w - 5)^2\)
12. Multiply \((5n^4 + 8)(5n^4 - 8)\)
13. Multiply \((x^2 - 3)^2\)
14. Combine like terms \(8x^2y - 4 - 6xy^2 + 9x^2y - 6\)
15. An object’s altitude, in meters, is given by the polynomial \(h + vt - 9.8t^2\), where \(h\) is the height in meters from which the launch occurs, \(v\) is the initial upward speed in meters per second, and \(t\) is the number of seconds for which the object is airborne. A pebble is shot upward from the top of a building 131 meters tall. If the initial speed is 22 meters per second, how high above the ground will the pebble be after 2 seconds? Round results to the nearest tenth of a meter.
16. Divide \(\frac{4x^4 + 10x^3 + 2x^2}{x^2}\)
17. Divide \(\frac{x^2 - 15x + 56}{x - 8}\)
18. Divide \((p^2 + 2p - 33) \div (p + 7)\)
19. Simplify \(2(r^3)^{-2}\). Do not use negative exponents in your answer.
20. Simplify \((x^{-4}y^{-4})(x^8y^{-8})\). Do not use negative exponents in your answer.
21. Simplify \((9.3 \times 10^{-3})(7.7 \times 10^6)\). Write the answer in scientific notation.
22. Convert \(1.862 \times 10^{-5}\) to decimal notation.
23. Subtract \((5n^7 - 13n^4 + 9) - (-6n^4 + 7n^7 - 15)\)