

Simplify. Express using exponents.

1. $2^6 \cdot 2^2 \cdot 2^5$

1. _____

2. $x^6 \cdot x \cdot x^3$

2. _____

3. $(x^4 y^3)(x^2 y)$

3. _____

4. $\frac{3^{11}}{3^7}$

4. _____

5. $\frac{y^9}{y^4}$

5. _____

Simplify. Express using positive exponents.

6. 4^{-3}

6. _____

7. $3y^{-4}$

7. _____

8. $(x^3)^4$

8. _____

9. $(-3t^4)^2$

9. _____

10. $(2t^3)(3t^2)$

10. _____

11. $(3a^3)(-2a^5)(-a)$

11. _____

12. $\frac{a^6}{a^3}$

12. _____

13. $\frac{24a^6 b^4}{18a^2 b^3}$

13. _____

Solve

Multiply or divide. Express your answer in scientific notation.

14. $(3.1 \times 10^4)(3 \times 10^3)$

14. _____

15. $\frac{6.9 \times 10^8}{3 \times 10^5}$

15. _____

Collect Like Terms

16. $3x^3 + 4 + 2x^3 + 7$

16. _____

17. $3x - 4x^2 + 2x + 6x^2$

17. _____

Evaluate the polynomial for $x = 3$

18. $3x^2 - 2x + 5$

18. _____

Add or subtract

19. $(3x^2 + 2x + 5) + (-5x^2 - 3x - 7)$

19. _____

20. $(12a^2 + 3a - 4) - (3a^2 - 4a - 3)$

20. _____

Multiply

21. $2a(4a + 5)$

21. _____

22. $(5x + 2)(5x - 2)$

22. _____

23. $(3x + 1)^2$

23. _____

24. $(x + 2)(x^2 - 3x - 4)$

24. _____

25. $(2x - 3)(x^2 - x - 1)$

25. _____