

6.1 – 6.2 Practice B**1–6: Evaluate the expression.**

1. 5^{-4}

2. $(-5)^{-4}$

3. $\frac{7^{-1}}{-8^0}$

4. $\frac{8^{-1}}{(-4)^0}$

5. $\frac{-2^{-4}}{3^{-3}}$

6. $\frac{6^{-2}}{(-1)^{-4}}$

7–21: Simplify the expression. Write your answer using only positive exponents.

7. $\frac{7^{-2}m^0}{n^{-4}}$

8. $\frac{(-9)^0 j^{-1}k^{-4}}{2^0}$

9. $\frac{5^{-2}w^0}{y^{-10}}$

10. $\frac{t^{-5}}{8^{-2}s^{-3}}$

11. $\frac{3^{-2}a^{-1}}{9^{-1}b^{-2}c^0}$

12. $\frac{17x^0y^{-8}}{4^{-2}z^{-6}}$

13. $(p^6)^3$

14. $(q^{-4})^5$

15. $5^3 \cdot 5^{-7}$

16. $-4 \cdot (-4)^{-2}$

17. $\frac{x^7}{x^4} \cdot x^2$

18. $\frac{v^5 \cdot v^3}{v^2}$

19. $(-8t^2)^3$

20. $\left(-\frac{q^4}{5}\right)^{-3}$

21. $\left(\frac{1}{3h^5}\right)^{-4}$

22 – 23: Simplify the expression. Write your answer using only positive exponents.

22. $\left(\frac{5x^{-4}y^3}{2x^2y^0}\right)^2 \cdot \left(\frac{4xy}{y^3}\right)^2$

23. $\left(\frac{2a^0b^{-4}}{b^3}\right)^4 \cdot \left(\frac{a^3b^{-2}}{3b^4a^{-4}}\right)^3$

24 – 25: Evaluate the expression. Write your answer in scientific notation & standard form.

24. $(4.3 \times 10^{-4})(6 \times 10^7)$

25. $\frac{1.2 \times 10^{-3}}{4.8 \times 10^{-10}}$

1 – 2: Find the indicated n th root(s) of a .

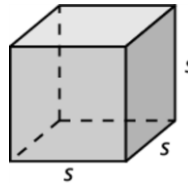
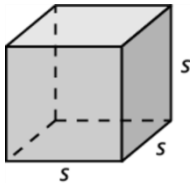
1. $n = 6, a = 64$

2. $n = 5, a = 243$

3 – 4: Find the dimensions of the cube. Check your answer.

3. Volume = 729 cm^3

4. Volume = 1000 yd^3



5 – 7: Evaluate the expression.

5. $-\sqrt[3]{-512}$

6. $729^{\frac{1}{6}}$

7. $(-625)^{\frac{1}{4}}$

8 – 9: Rewrite the expression in rational exponent form.

8. $(\sqrt[5]{-53})^4$

9. $(\sqrt[4]{110})^7$

10 – 11: Rewrite the expression in radical form.

10. $(-34)^{\frac{4}{9}}$

11. $41^{\frac{7}{4}}$

12 – 17: Evaluate the expression.

12. $(-128)^{\frac{3}{7}}$

13. $(-25)^{\frac{5}{2}}$

14. $1000^{\frac{4}{3}}$

15. $\left(\frac{1}{125}\right)^{\frac{2}{3}}$

16. $343^{-\frac{1}{3}}$

17. $\left(\frac{1}{64}\right)^{\frac{3}{2}}$

18. The radius of a sphere is given by the equation $r = \left(\frac{3V}{4\pi}\right)^{1/3}$, where V is the volume of the sphere. Find the radius, to the nearest centimeter, of a sphere that has a volume of 268 cubic centimeters. Use 3.14 for π .

19. Use the formula $r = \left(\frac{F}{P}\right)^{1/n} - 1$ to find the annual inflation rate to the nearest tenth of a percent. A rare coin increases in value from \$0.25 to \$1.50 over a period of 30 years.