

6.1 Day One Practice Worksheet

In Exercises 1–8, evaluate the expression.

1. 3^0

2. $(-2)^0$

3. 3^{-4}

4. $(-4)^{-3}$

5. $\frac{2^{-3}}{5^0}$

6. $\frac{-3^{-2}}{2^{-3}}$

7. $\frac{4^{-1}}{-7^0}$

8. $\frac{3^{-1}}{(-5)^0}$

In Exercises 9–23, simplify the expression. Write your answer using only positive exponents.

9. z^0

10. a^{-8}

11. $6a^0b^{-2}$

12. $14m^{-4}n^0$

13. $\frac{3^{-2}r^{-3}}{s^0}$

14. $\frac{2^3a^{-3}}{8^{-1}b^{-5}c^0}$

15. $\frac{3^5}{3^3}$

16. $\frac{(-2)^7}{(-2)^5}$

17. $(-5)^3 \cdot (-5)^3$

18. $(q^5)^3$

19. $(a^{-4})^2$

20. $\frac{c^4 \cdot c^3}{c^6}$

21. $(-4d)^4$

22. $(-3f)^{-3}$

23. $\left(\frac{4}{x}\right)^{-3}$

24. A rectangular prism has length x , width $\frac{x}{2}$, and height $\frac{x}{3}$. Which of the expressions represent the volume of the prism? Select all that apply.

A. $6^{-1}x^3$

B. $6^{-1}x^{-3}$

C. $(6x^{-3})^{-1}$

D. $2^{-1} \cdot 3^{-1} \cdot x^3$