

Lesson 5 Skills Practice

Negative Exponents

Write each expression using a positive exponent.

1. $4^{-5} = \frac{1}{4^5}$

2. $5^{-7} = \frac{1}{5^7}$

3. $m^{-9} = \frac{1}{m^9}$

4. $s^{-6} = \frac{1}{s^6}$

5. $f^{-3} = \frac{1}{f^3}$

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

7. $(-4)^{-3} = \frac{1}{(-4)^3}$

8. $w^{-12} = \frac{1}{w^{12}}$

Evaluate each expression.

9. $(-5)^{-5} = -\frac{1}{3,125}$

10. $3^{-2} = \frac{1}{9}$

11. $8^{-3} = \frac{1}{512}$

12. $(-9)^{-4} = \frac{1}{6,561}$

Write each fraction as an expression using a negative exponent.

13. $\frac{1}{12^3} = 12^{-3}$

14. $\frac{1}{81} = 9^{-2}$

15. $\frac{1}{t^6} = t^{-6}$

16. $\frac{1}{8^8} = 8^{-8}$

Simplify. Express using positive exponents.

17. $2^{-6} \cdot 2^3 = \frac{1}{2^3}$

18. $s^{-5} \cdot s^7 = s^2$

19. $\frac{m^8}{m^{-4}} = m^{12}$

20. $\frac{10^8}{10^9} = \frac{1}{10}$

21. $y^{-3} \cdot y^3 = 1$

22. $s^{-5} \cdot s^7 = s^2$

23. $\frac{x^6}{x^{-3}} = x^9$

24. $\frac{6^{-4}}{6^8} = \frac{1}{6^{12}}$

25. $\frac{3^{-5}}{3^{-3}} = \frac{1}{3^2}$

26. $\frac{e^{-3}}{e^{-2}} = \frac{1}{e}$

27. $\frac{n^{-6}}{n^4} = \frac{1}{n^{10}}$

28. $\frac{j^{-2}}{j^{-2}} = 1$