

Worksheet 8.1 : Zero and Negative Exponents

Simplify each expression.

1. $(-2.42)^0$

2. 4^{-2}

3. -3^{-4}

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

Complete each equation.

5. $4n^{\square} = \frac{4}{n^2}$

6. $\frac{x^{\square}}{2y^{\square}} = \frac{1}{2x^{-3}y^4}$

7. $\frac{a^{\square}}{3b^{\square}} = \frac{b^3}{3}$

8. $3xy^{\square} = \frac{3x}{y^5}$

Simplify each expression.

9. $3ab^0$

10. $a^{-4}c^0$

11. $9^0y^7t^{-11}$

12. $\frac{7s^0t^{-5}}{2^{-1}m^2}$

Evaluate each expression for $r = -2$ and $s = 4$.

13. s^{-3}

14. $(2s)^{-2}$

15. $r^{-4}s^2$

16. $\frac{1}{r^{-2}s^2}$

Write each number as a power of 10 using negative exponents.

17. $\frac{1}{10}$

18. $\frac{1}{100}$

19. $\frac{1}{10,000}$

20. $\frac{1}{100,000}$

Write each expression as a decimal.

21. 10^{-3}

22. 10^{-6}

23. 5×10^{-1}

24. $3 \cdot 10^{-3}$