

7-1**Practice B**

Form K

Zero and Negative Exponents

Simplify each expression.

1. 37^0

2. 3^{-4}

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

4. $\frac{3}{6^{-1}}$

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

6. 112^{-1}

7. -11^0

8. $-(7n)^{-2}$

9. $-(15p)^0$

10. $\left(\frac{3}{5}\right)^{-2}$

11. $4x^{-3}y^0$

12. $\frac{8m^{-2}}{4n^{-1}}$

13. $\frac{-6a^{-2}(bc)^2}{d^{-4}}$

14. $\left(\frac{5s}{6t}\right)^{-2}$

15. $4^{-2}h^{-4}j^3$

16. $-(6yz)^{-2}x^0$

17. $\frac{10fg^{-5}h^0}{h^{-2}}$

18. $\frac{6t^{-1}}{11(uv)^{-3}w^4}$

Evaluate each expression for $x = -2$, $y = 4$, and $z = 2$.

19. $4x^{-1}$

20. z^{-3}

21. $2xy^{-2}z^2$

22. $6x^3z^0$

23. $-x^{-2}$

24. $(-y)^{-3}$

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

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

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

Write each expression as a decimal.

27. 10^{-6}

28. 6×10^{-3}

29. The population of a suburb is 4000 people. The population of the suburb is expected to double each decade. The expression $4000 \cdot 2^d$ models the population of the suburb after each decade d . Evaluate the expression for $d = -2$. Describe what the value of the expression represents in this situation.

30. **Writing** Describe how a power with a zero exponent and a power with a negative exponent can be simplified.