

Zero and Negative Exponents

Name: _____

Date: _____

Remember: Any number to the power of 0 equals 1 (e.g. $5^0 = 1$). A negative exponent means "reciprocal" (e.g. $2^{-3} = 1/2^3 = 1/8$).

Part A: Zero Exponents

Evaluate each expression.

1. $7^0 =$ _____

2. $15^0 =$ _____

3. $(-4)^0 =$ _____

4. $100^0 =$ _____

5. $(1/2)^0 =$ _____

6. $(-25)^0 =$ _____

Part B: Negative Exponents (Write as Fractions)

Rewrite each expression with a positive exponent, then evaluate.

7. $2^{-3} =$ _____

8. $5^{-2} =$ _____

9. $3^{-1} =$ _____

10. $10^{-2} =$ _____

11. $4^{-2} =$ _____

12. $2^{-5} =$ _____

Part C: Negative Exponents (Write as Decimals)

Evaluate each expression and write your answer as a decimal.

13. $10^{-1} =$ _____

14. $10^{-3} =$ _____

15. $5^{-1} =$ _____

16. $2^{-4} =$ _____

Part D: Mixed Practice

Evaluate each expression. Write answers as fractions or whole numbers.

17. $8^0 + 2^{-2} =$ _____

18. $3^{-3} =$ _____

19. $6^{-1} \times 6^1 =$ _____

20. $(2^{-1})^2 =$ _____

21. $4^0 \times 4^{-1} =$ _____

22. $10^{-4} =$ _____