

Exponents Worksheet

What Are Exponents?

An exponent tells how many times a number (the base) is multiplied by itself.

Example:

- $2^3 = 2 \times 2 \times 2 = 8$
- $5^2 = 5 \times 5 = 25$

Part A: Write as Repeated Multiplication - Write each exponent as repeated multiplication.

1. $3^2 =$ _____

5. $5^4 =$ _____

9. $9^2 =$ _____

2. $4^3 =$ _____

6. $10^3 =$ _____

10. $2^4 =$ _____

3. $2^5 =$ _____

7. $7^2 =$ _____

4. $6^2 =$ _____

8. $8^3 =$ _____

Part B: Evaluate the Exponents - Find the value of each expression.

11. $2^3 =$ _____

15. $4^3 =$ _____

19. $9^2 =$ _____

12. $5^2 =$ _____

16. $6^2 =$ _____

20. $8^2 =$ _____

13. $3^4 =$ _____

17. $7^2 =$ _____

14. $10^2 =$ _____

18. $2^5 =$ _____

Part C: Match the Exponent - Match each expression with its value.

Expression	Value
21. 2^4	A. 25
22. 5^2	B. 16
23. 3^3	C. 81
24. 9^2	D. 27
25. 4^2	E. 16

Part D: Fill in the Missing Number

26. $\square^2 = 49$

27. $\square^3 = 27$

28. $\square^2 = 64$

29. $\square^2 = 100$

30. $\square^3 = 125$

31. $\square^2 = 36$

32. $\square^3 = 216$

33. $\square^2 = 81$

34. $\square^3 = 512$

35. $\square^2 = 121$

Part E: Word Problems

36. A square garden has sides that are 5 feet long. The area is found using 5^2 . What is the area?

Answer: _____ square feet

37. A cube has edges that are 3 inches long. The volume is found using 3^3 . What is the volume?

Answer: _____ cubic inches

38. A square floor has sides that are 8 feet long. What is the area?

Answer: _____ square feet

39. A cube-shaped box has edges that are 4 inches long. What is the volume?

Answer: _____ cubic inches

40. A square playground has sides that are 10 yards long. What is the area?

Answer: _____ square yards
