Exponents Worksheet

What Are Exponents?

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

Example:

- **23=2×2×2=82^3 = 2 \times 2 \times 2 = 823=2×2×2=8**
- **52=5×5=255^2 = 5 \times 5 = 2552=5×5=25**

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

1. 3^2 = _____
2. 4^3 = _____
3. 2^5 = _____
4. 6^2 = _____
5. 5^4 = _____
6. 10^3 = _____
7. 7^2 = _____
8. 8^3 = _____
9. 9^2 = _____
10. 2^4 = _____

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

11. 2^3 = _____
12. 5^2 = _____
13. 3^4 = _____
14. 10^2 = _____
15. 4^3 = _____
16. 6^2 = _____
17. 7^2 = _____
18. 2^5 = _____
19. 9^2 = _____
20. 8^2 = _____

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

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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

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