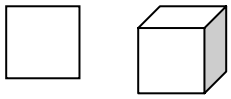
Exponential Expressions

Name_____



1. How many square units would be needed to build a square with 8-inch sides? With 10-inch sides?

2. What would the length of the square's side (the square root) have to be if there were 49 square units in the area?

3. Explain how a square root is related to the square of that root.

4. How many cubes would be needed to build a cube with a height of 3 units?

5. What would the height of a cube be if there were 125 cubic units in the cube?

Name the base and the exponent in each of the following exponential expressions:

6. 4^2; base _____ exponent _____ 7. 5^3; base _____ exponent _____

8. 6^0; base _____ exponent _____ 9. 2^1; base _____ exponent

Rewrite each of the following expressions as a product of factors. The first one has been done for you.

10. $4^3 = 4 \times 4 \times 4$ 11. $7^2 =$ 12. $6^0 =$ 13. $8^1 =$

Evaluate each of the following expressions

14. 4^3 = 15. 7^2 = 16. 6^0 = 17. 8^1 =

Rewrite each of the following expressions using a base and an exponent, then find the value. Ex: 6 x 6 x 6 = 6^3 = 216

18. 3 • 3 • 3 • 3 19. 5 x 5 x 5 20. (9)(9) 21. 1 • 1 • 1 • 1 • 1

Rewrite each expression using exponential form

22. a•a•a 23. mmmmm 24. 2•2•2•2(kkk) 25. 1

Use the calculator to find the value for each

26. 5^{-2} 27. 3^{-3} 28. 10^{-4} 29. 100^{-1}

28. Describe how your thinking about exponential expressions has changed during this lesson. Include what you understand better or what you now know that you didn't know before.