

LESSON
9-1

Exponents

Practice and Problem Solving: A/B

Write each expression in exponential form and find its value.

1. $2 \times 2 \times 2 \times 2$

2. $3 \times 3 \times 3$

3. $\frac{3}{5} \times \frac{3}{5}$

4. 10×10

5. $\frac{1}{6} \times \frac{1}{6} \times \frac{1}{6} \times \frac{1}{6}$

6. $0.5 \times 0.5 \times 0.5$

Find each value.

7. $(1.2)^3$

8. $\left(\frac{1}{4}\right)^4$

9. $(2)^6$

10. 2^6

Solve.

- ~~11. The volume of a cubic box is 10^6 cubic millimeters. Write the volume of the box in standard form.~~

~~How long is each side of the box? (*Hint*: The length, width, and height of a cube are equal.)~~

- ~~12. The voltage in an electrical circuit is multiplied by itself each time it is reduced. The voltage is $\frac{27}{125}$ of a volt and it has been reduced three times. Write the voltage in exponential form. _____~~

~~What was the original voltage in the circuit? _____~~

Compare using $>$, $<$, or $=$.

13. $\left(\frac{1}{3}\right)^4$ _____ $\left(\frac{1}{3}\right)^0$

14. $(1)^5$ _____ 1^5

15. 5^0 _____ -5^0

- ~~16. Use exponents to write 81 three different ways.~~

~~$81 =$ _____; $81 =$ _____; $81 =$ _____~~