

Name _____ Period _____ Date _____

Vocabulary: Define each word and give an example.

1. Exponent
2. Product of Powers Property of Exponents

Short Answer:

3. Describe how to evaluate a base raised to a negative exponent. Show using patterns why this is true.
4. Describe how to write a number that is in scientific notation in standard (decimal) form.

Problems:

****Be sure to show all work used to obtain your answer. Circle or box in the final answer.****

5. Simplify the following expressions.

a. $(2xy)^3(x^2)$

b. $(-9x^3)^2$

c. $(abc^2)^3(a^2b)^2$

6. Evaluate the exponential expressions.

a. -5^2

b. $8(2)^{-3}$

c. $2^0 \cdot 3^2$

7. Simplify. Rewrite each expression with positive exponents.

a. $(-6)^2 xy^{-1}$

b. $\frac{4}{2m^{-5}}$

c. $\left(\frac{-4x^2}{2x^{-1}}\right)^{-1}$

d. $\left(\frac{-6x^2y}{2xy^3}\right)^3$

Algebra I Practice Test**Integer Exponents**

8. Rewrite the number in decimal form.

a. 1.228×10^6

b. 6.82×10^{-5}

9. Rewrite the number in scientific notation.

a. 7,500,000

b. 0.00000156

10. Evaluate the expression. Write your final answer in scientific notation.

a. $(4 \times 10^6)(3 \times 10^8)$

b. $\frac{5.5 \times 10^{-2}}{1.1 \times 10^{-4}}$

c. $(3 \times 10^5)^4$

Multiple Choice Section: **Circle the best answer.**

11. Determine the value of $2^3 \cdot 2^4$.

A. 48

B. 64

C. 96

D. 128

12. Divide: $\frac{6.0 \times 10^{-5}}{3.0 \times 10^{-3}}$. What is the quotient in scientific notation?

A. 0.2×10^{-8}

B. 0.2×10^{-2}

C. 2.0×10^{-8}

D. 2.0×10^{-2}

13. Which expression is equivalent to $(a^2bc^3)(3a^3bc^4)^2$?

A. $6a^{12}b^2c^{24}$

B. $6a^8b^3c^{11}$

C. $9a^{12}b^2c^{24}$

D. $9a^8b^3c^{11}$

14. Simplify the following expression using only positive exponents: $(-10a)^0 x^{-2}$

A. $\frac{1}{x^2}$

B. $\frac{-10a}{x^2}$

C. $10ax^2$

D. $-x^2$