

Algebra 1

Unit 6 REVIEW – Exponent Rules

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8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions.

1.) Explain the process you would use to simplify. $\frac{4^3 \cdot 4^2}{4^7}$

2.) For the expression, write three equivalent expressions using exponents.

yx^{-2} a.) _____ b.) _____ c.) _____

3.) Simplify.

a.) $(b^3)^2 \cdot (b^2)^{-4} =$

b.) $a^5c^4 \cdot 5a^{-7}c^6 =$

c.) $\frac{(3pm^{-1}x^0)^{-4} \cdot 3m^{-1}p^2}{3px^2} =$

4.) The students made mistakes in their work. Identify the mistake (by explaining it). Then correct the mistake next to the problem. Simplify your answer. $\frac{a^3b^2c^{-4}}{a^{-4}b^5c^{-9}} = \frac{c^5}{a^1b^3}$

8.EE.4 Perform operations with numbers expressed in scientific notation.

5.) The following scientific notations represent three test tube volumes: 1×10^1 , 5.6×10^{-1} , and 4×10^0 . Find the sum of the three volumes.

6.) Multiply $(2.4 \times 10^3)(3.1 \times 10^5)$. Express the result in scientific notation.

7.) The diameter of Mercury is about 2.5×10^3 miles. The diameter of Jupiter, the largest planet, is about 8.7×10^5 miles. What is the difference between the diameters of these planets expressed in scientific notation?