Math 097 Brush-Up Lesson: Exponents & Proportions

  If you placed into MATH 97 or a higher-level course, this might be useful for you

1. Simplify each expression using the basic rules of exponents.

a. $x^5 x^{11}$

b. $\dfrac{x^{11}}{x^7}$

c. $(x^2 x^3)^5$

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2. Simplify each expression using the basic rules of exponents. Use Positive exponents in your answers.

a. $(x^{-3})^4$

b. $\dfrac{x^{-6}}{x^3}$

c. $\dfrac{12x^{-6}}{8y^{-10}}$

3. Compute the expression in Scientific Notation.

a. $(3.0 \times 10^{13})(8.1 \times 10^{12})$

b. $(4.5 \times 10^{-11})(6.0 \times 10^{-17})$

3. c. $(4.2 \times 10^{12}) \div (6.0 \times 10^{-7})$

4. Solve the Proportion Equation.

a. $\dfrac{5}{x+3} = \dfrac{3}{x-1}$

b. $\dfrac{x+2}{x-2} = \dfrac{7}{3}$

5. Set-up and Solve the Proportion Application problems.
a. 200 mg is the dose of ibuprofen for a 160 lb male. Find the dose for a 225 lb male.

b. A sample of 60 deer are caught, tagged, and released in Ocean Shores. Two months later, a sample of 94 deer is caught in Ocean Shores and 4 have tags. Estimate the deer population size in Ocean Shores.