**Exponent Rules OR Exponents Rule!**

Laws of exponents for real numbers a and b and integers m and n:

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| **Rule** | Example | **Rule**  | Example |
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NOTE: These exercises involve the first five rules involving whole number exponents.

1. Evaluate the following expressions. Show the exponent meaning in your work.

 (a) 23 (b) (-4)2 (c) (-6)0

 (d) 3 ∙ 42 (e)  (f) 

2. Evaluate each expression for the given value of x. Show the substitution and each “order of operation step toward the solution.
 (a) 2x2 ; x = 5 (b) (2x)2 ; x = 5 (c)  (d) 5 – 2x2 ; x = -3

3. True or False. Explain your reasoning. (-3)4 = -34  \_\_\_\_\_\_\_\_\_\_

4. Simplify. Use only positive exponents in your answers. Show the exponent rules steps.

 (a) x5 ∙ x3 ∙ x2 (b)  (c) 

 (d) (-4xy3)2 (e) (b2)3 (f) 

5. Make up three problems of your own, and show correct use of the exponent rules toward the solution.

 (a)

 (b)

 (c)

**Do your best! Rise to the challenge! Live and learn!**