**Exponent Rules Review Worksheet**

Product Rule:When multiplying monomials that have the same base, add the exponents.

 

Power of 0:

$$x^{0}=1$$

Negative Exponents:

$$x^{-a}=\frac{1}{x^{a}}$$

 Example 1:

Example 2:

Power Rule: When raising monomials to powers, multiply the exponents.

 

 Example 3: (x2y3)4 = x2 • 4 y3 • 4 = x8y12

Example 4: (2x3yz2)3 = 23 x3 • 3 y3 z2 • 3 = 8x9y3z6

Quotient Rule: When dividing monomials that have the same base, subtract the exponents.

 

Example 5: Example 6: 

Example 7: 

**Simplify each of the following.**

1)  2) (2a2b)(4ab2) 3) (6x2)(-3x5) 4)  5) (3x3)(3x4)(-3x2)

6) (2x2y3)2 7) (5x2y4)3 8) (6x4y6)3 9) (4x3y3)3 10)(7xy)2

11)  12)  13) 14) 15)

16)  17)  18)  19)  20) 