

## Exponent Rules

$$x^n x^m = x^{n+m}$$

If bases are the same, when you multiply them  
ADD the exponents

$$\frac{x^n}{x^m} = x^{n-m}$$

If bases are the same, when you divide them  
SUBTRACT the exponents

$$(x^n)^m = x^{nm}$$

When you have an exponent raised to a higher exponent  
MULTIPLY the exponents

$$x^0 = 1$$

Any base (letter or number) to the 0 power is equal to 1 except  
 $0^0$  which is undefined

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

To make a negative exponent positive move the variable from  
the denominator (bottom) to the numerator (top) or move it  
from the numerator (top) to the denominator (bottom)

$$-x^n = -x^n$$

Leave the negative sign & solve x to the nth power

$$(-x)^n = (-x) \text{ times itself } n \text{ times}$$

If n is an EVEN exponent, the answer will be a + number  
If n is an ODD exponent, the answer will be a - number