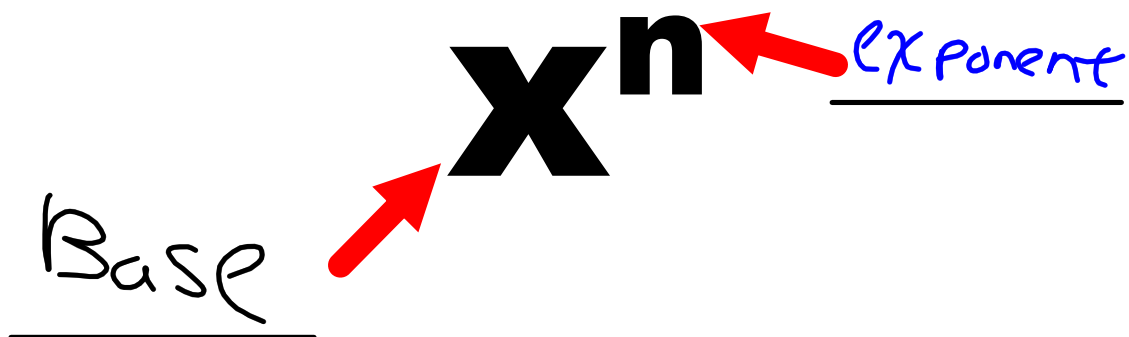


## EXPONENTS

EXPONENT: Power that indicates  
Self-multiplication

Base  $x^n$  Exponent



**EXAMPLES:**

1. Expand

$$2^3 \cdot 4^2$$

$$2 \cdot 2 \cdot 2 \cdot 4 \cdot 4$$

2. Rewrite w/ Exp.

$$x \cdot x \cdot x \cdot y \cdot y \cdot y \cdot z \cdot z$$

$$x^3 y^3 z^2$$

## PRODUCT RULE

IF THE SAME BASE EXISTS WHEN  
MULTIPLYING EXPONENTS, THEN THE  
FOLLOWING RULE APPLIES....

$$\mathbf{x^m \cdot x^n = x^{m+n}}$$

**EXAMPLES:**

3. Rewrite

$$2^3 \cdot 2^2$$

$$2^5$$

4. Rewrite

$$2x^3 \cdot 4x^7$$

$$8x^{10}$$

**ZERO RULE**

**ANYTHING TO THE ZERO POWER IS  
EQUAL TO**

**ONE**

$$\mathbf{x^0 = 1}$$

**EXAMPLES:**

5. Rewrite

$$2,100,100,923^0$$

1

6. Rewrite

$$x^0 \cdot 4x^7$$

$$1 \cdot 4x^7$$

$$4x^7$$