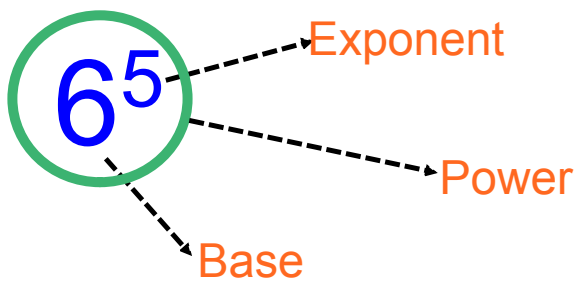


Chapter 2 Review

1. Parts of a Power



Reminder:

Every # has an exponent...

$$4 = 4^1$$

2. Repeated Multiplication

$$4^3 = 4 \times 4 \times 4$$


3. BRACKETS AND NEGATIVE SIGNS

$$-3^2 = -(3 \times 3) = -9$$

$$(-3)^2 = (-3 \times -3) = 9$$

$$-(-3)^2 = -(-3 \times -3) = -9$$

4. Powers of Ten

10^3  tells you how many zeros are in the answer

$$10^3 = 1000$$

$$10^7 = 10\,000\,000$$



7 zeros

5. Zero Exponent

$3^0 = 1$ Any number with an exponent of 0, will always = 1

Watch for brackets and negative signs

ie: $(-3)^0 = 1$

$-3^0 = -1$ Why???

6. Writing #'s using powers of 10

3876

$$= (3 \times 10^3) + (8 \times 10^2) + (7 \times 10^1) + (6 \times 10^0)$$

Write...

$$(7 \times 10^7) + (4 \times 10^5) + (3 \times 10^4) + (9 \times 10^1)$$

in standard form

70 430 090

7. Order of Operations

BEDMAS

$$\begin{aligned} & 4 \times (2 + 3^3) \\ &= 4 \times (2 + 27) \\ &= 4 \times 29 \\ &= 116 \end{aligned}$$

8. Power Laws

a) Multiplying with same base - add exponents

$$3^7 \times 3^4 = 3^{7+4} = 3^{11}$$

b) Dividing with same base - subtract exponents

$$6^4 \div 6 = 6^{4-1} = 6^3$$

c) Power to Power - multiply exponents

$$(3^2)^4 = 3^{2 \times 4} = 3^8$$

9. Order of Operations - Using Exponent Laws

$$\text{ex: } 3^2 \times 3^4 \div 3^3$$

$$3^6 \div 3^3$$

$$3^3$$

$$\text{ex: } (4^4 \div 4)^3$$

$$= (4^3)^3$$

$$= 4^9$$

$$\text{ex: } \frac{[(-2)^5]^3 \div [(-2)^6]^2}{(-2)^7 \div (-2)^6}$$

$$= \frac{(-2)^{15} \div (-2)^{12}}{(-2)^7 \div (-2)^6}$$

$$= \frac{(-2)^3}{(-2)^1}$$

$$= (-2)^2$$

$$= 4$$