

1.2 (book pg.12) Powers & Exponents



What is The Meaning of **Exponents**?

- Repeated addition is multiplication.
- Repeated multiplication is the use of exponents.

- The **Base** is the “**Big number**”.
- The **Exponent** is the “**Floaty number**”.
- Both the **Base** and **Exponent** make up the **Power**.



Exponential Form:

5^6 is in exponential form

exponent

Expanded Form

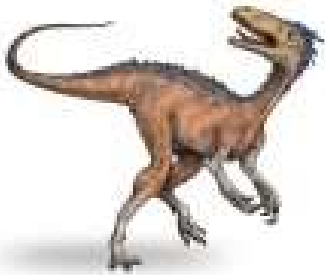
$$2^3 = 2 \cdot 2 \cdot 2 = 8$$

base

$$n^4 = n \cdot n \cdot n \cdot n$$

power

factors



- **Perfect squares** are the numbers that result from multiplying any whole number by itself
- (ex. $36 = 6 \times 6 = 6^2$).



Special Examples:

- Any base number to the first power equals itself.

$$7^1 = 7$$

$$15^1 = 15$$

- When the base number is 0 (zero), no matter what the exponent is, the answer is 0 (zero)

$$0^8 = 0$$

$$0^{19} = 0$$

- If the base number is 1, regardless of the exponent, it will equal 1.

$$1^7 = 1$$

$$1^{16} = 1$$

- Any base number to the zero power equals 1.

$$10^0 = 1$$

$$8^0 = 1$$