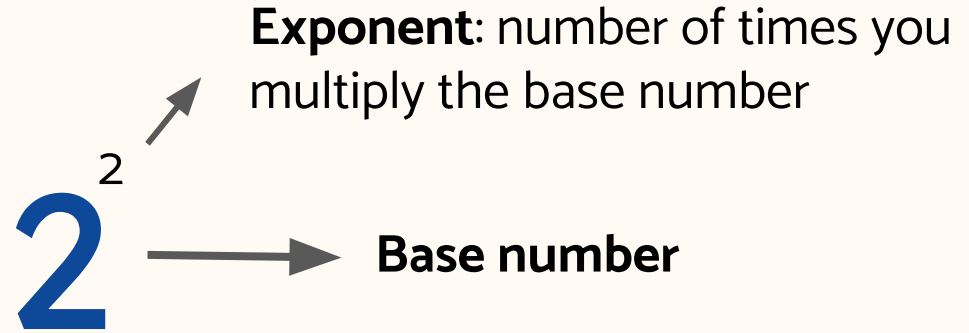




Exponents & Square Roots

What are exponents?

Exponents
represent
multiplication of
the same factor.



Three to the power of 2 - 3^2

The exponent 2 tells the expression to multiply 3 (base number) two times. ($3^2 = 3 \times 3$)

Examples

$$5^3 \longrightarrow 5 \times 5 \times 5$$

$$3^4 \longrightarrow 3 \times 3 \times 3 \times 3$$

$$4^1 \longrightarrow 4$$

$$2^5 \longrightarrow 2 \times 2 \times 2 \times 2 \times 2$$

Square Roots

When a number is **multiplied by itself** the square root of the value is the number.

The square root of 25:

1. Use a **factor tree**
2. 25



3. 5×5 Square root of 25 = 5

Examples

What is the square root of 16?

$$4 \times 4 = 16$$

Square root of 16 is **4**

What is the square root 9?

$$3 \times 3 = 9$$

Square root of 9 is

3

What is the square root of 4

$$2 \times 2 = 4$$

Square root of 4 is **2**

What is the square root of 100?

$$10 \times 10 = 100$$

Square root of 100 is

10



Practice Problems

1. What is the square root of 49?

2. 8^3

3. 9^4

4. What is the square root of 64?

5. 4^4

6. What is the square root of 81?

Answer Key

1. $7 \times 7 = 49$

Ans: 7

2. $8 \times 8 \times 8 = 512$

3. $9 \times 9 \times 9 \times 9 =$
6561

4. $8 \times 8 = 64$

Ans: 8

5. $4 \times 4 \times 4 \times 4 = 256$

6. $9 \times 9 = 81$

Ans: 9