


Powers and Roots

We can use **powers** to express a **repeated multiplication** of a number.


 Examples

$$2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$$

 2 is multiplied by itself 5 times.

We say “2 to the power of 5”.

$$3^4 = 3 \times 3 \times 3 \times 3 = 81$$

 3 is multiplied by itself 4 times.

We say “3 to the power of 4”.

Finding the **root** is the inverse operation.

 Examples

$$\sqrt[5]{32} = 2 \text{ because } 2 \text{ multiplied by itself } 5 \text{ times is } 32$$

$$\sqrt[4]{81} = 3 \text{ because } 3 \text{ multiplied by itself } 4 \text{ times is } 81$$