INDICES AND INDEX LAWS:

Indices are numbers written on the top of a base number.

These terms are defined below:

- An expression a^n is called a *power*.

- The number a is called the *base*.

- The number n is called the *index* or *exponent*.

Thus 2^3 is a *power* with *base* 2 and *index* 3

We manipulate indices using index laws:

- $x^0 = 1$

- $x^{-n} = \dfrac{1}{x^n}$

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

- $x^n \div x^m = x^{n-m}$

- $(x^n)^m = x^{n \cdot m}$

- $x^{\frac{n}{m}} = \sqrt[m]{x^n}$

1.3 WORKED EXAMPLE

Simplify:
$$\sqrt[3]{x^2} \times \sqrt[3]{x^4}$$

1.4 WORKED EXAMPLE

Simplify:
$$\frac{3^n \times 9^{n+1}}{27^n}$$