Chapter 6

Squares & Square Roots

We can write them in the exponential form as:

$4 = 2^2$, $25 = 5^2$, $49 = 7^2$ and $100 = 10^2$

Perfect squares:

The square of natural number is called a "Perfect square" or a "Square number"(m).

i.e., If $n^2 = m$, when 'n' and 'm' are natural numbers then 'm' is a perfect square (or) a square number.

Note:

If all the prime factors of number can be paired, it is a perfect square otherwise, the number is not a perfect square.

For **example:**

1) $144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3 = 2^2 \times 2^2 \times 3^2$

Here, each factor is in pairs. Therefore, 144 is a perfect square.

2) $240 = 2 \times 2 \times 2 \times 2 \times 3 \times 5 = 2^2 \times 2^2 \times 3 \times 5$

There is no pair for 3 and 5. Therefore, 240 is not a perfect square.