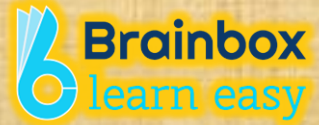


## Chapter 6



# Squares & Square Roots

We can write them in the exponential form as:

$$4 = 2^2, 25 = 5^2, 49 = 7^2 \text{ and } 100 = 10^2$$

### 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.