Chapter 6

Squares & Square Roots

Methods of finding square roots:

Finding square root through repeated subtraction:

(1) Take the given number whose square root is to be found out.

(2) Subtract the odd numbers 1,3,5,7 ……. successively from the given number.

(3) If the given number is a perfect square, we will get zero at some stage. We stop at the point where we have got zero and declare the number of times we have performed subtraction as the square root of the given number.

Example:

Find $\sqrt{49}$.

Step (1): 49 – 1 = 48 (Subtracting of 1st odd number)

Step (2): 48 – 3 = 45 (Subtracting of 2nd odd number from 48)

Step (3): 45 – 5 = 40 (Subtracting of 3rd odd number from 45)

Step (4): 40 – 7 = 33 (Subtracting of 4th odd number from 40)

Step (5): 33 – 9 = 24

Step (6): 24 – 11 = 13

Step (7): 13 – 13 = 0

So, we have performed subtraction 7 times.

$\therefore \sqrt{49} = 7$