

## Chapter 6



# Squares & Square Roots

### Finding square root through prime factorisation:

Let us understand this method through the example given below.

#### Example:

Find the square root of 324.

Step I: Find the prime factors of the given number.

$$324 = 2 \times 2 \times 3 \times 3 \times 3 \times 3$$

2	324
2	162
3	81
3	27
3	9
	3

Step (2): Group the factors in pairs.

$$324 = (2 \times 2) \times (3 \times 3) \times (3 \times 3)$$

Step (3): Take one factor from each pair.

$$\sqrt{324} = 2 \times 3 \times 3$$

Step (4): The product thus obtained is the required square root.

Hence,  $\sqrt{324} = 18$