



Class – 7

Chapter – 1

## Rational and Irrational Number

### Lecture sheet – 7

#### Word problem

**Example 1:** In a garden, there are 1296 mango trees. Along the length and breadth of the garden there are equal number of mango trees. Find the number of trees in each row of the garden.

**Solution:** There are equal number of mango trees in each row along both length and breadth of the garden.

∴ The number of trees in each row will be the square root of 1296.

Here,

$$\begin{array}{r} 3 \overline{) 1296} \quad ( 36 \\ \underline{9} \phantom{00} \\ 396 \\ \underline{396} \\ 0 \end{array}$$

∴ The required number of mango trees is 36.

Ans: 36.

1. Exercise (Do yourself)

a) At least how many soldiers is to be removed or is to be added with 56728 soldiers so that the soldiers can be arranged in form of a square?

b) 2704 students of a school are arranged in a square for display. Find the number of students in each row.

**Example 2:** A scout team can be arranged in 9, 10 and 12 rows. Again, they can be arranged in a square form. Find the minimum number of scouts in that scout team.

**Solution:** The scout team can be arranged in 9, 10 and 12 rows. Therefore, the number of scouts is divisible by 9, 10 and 12. This least number will be L.C.M. of 9, 10 and 12.

Here,

$$\begin{array}{r|l} 2 & 9, 10, 12 \\ \hline 3 & 9, 5, 6 \\ \hline & 3, 5, 2 \end{array}$$

$$\begin{aligned} \therefore \text{L.C.M. of } 9, 10 \text{ and } 12 &= 2 \times 2 \times 3 \times 3 \times 5 \\ &= (2 \times 2) \times (3 \times 3) \times 5 \end{aligned}$$

But obtained L.C.M.  $(2 \times 2) \times (3 \times 3) \times 5$  can not be arranged in square form.

To make a perfect square  $(2 \times 2) \times (3 \times 3) \times 5$  is to be multiplied at least by 5.

$\therefore$  The number required to arranged in 9, 10 and 12 rows and also in square form is  $(2 \times 2) \times (3 \times 3) \times (5 \times 5) = 900$

The required number of scouts is 900

Ans: 900.

2. Exercise (Do yourself)

What is the least perfect square number which is divisible by 9, 15 and 25?