



Class – 7

Chapter – 1

## Rational and Irrational Number

### Lecture sheet – 7

#### Word problem

#### Solution

1. 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.

#### **Solution:**

a) The number of soldiers 56728.

$$\begin{array}{r} 2 \overline{) 56728} \quad ( 238 \\ \underline{4} \phantom{00} \\ 43 \phantom{00} \phantom{00} \\ \underline{167} \phantom{00} \\ 129 \phantom{00} \\ \underline{129} \phantom{00} \\ 468 \phantom{00} \\ \underline{3828} \phantom{00} \\ 3744 \phantom{00} \\ \underline{3744} \\ 84 \end{array}$$

∴ Remainder 84.

∴ So 84 soldiers have to remove.

56728 is not perfect square number.

We observe here that,  $(238)^2 < 56728 < (239)^2$

$$\begin{aligned}\therefore \text{The required number of soldiers to be added} &= (239)^2 - 56728 \\ &= (239 \times 239) - 56728 \\ &= 57121 - 56728 \\ &= 393\end{aligned}$$

$\therefore$  So, we have to add minimum 393 soldiers.

Ans: We can add 393 soldiers and removed 84 soldiers.

**b)** The number of students in the school = 2704

$$\begin{array}{r} 5 \overline{) 27\ 04} \quad ( 52 \\ \underline{25} \phantom{00} \\ 2\ 04 \\ \underline{2\ 04} \\ 0 \end{array}$$

The square root of 2704 is 52

$\therefore$  The number of students in each row is 52.

Ans: 52 students.

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

**Solution:** The L.C.M. of 9, 15 and 25

$$\begin{array}{r|l} 3 & 9, 15, 25 \\ \hline 5 & 3, 5, 25 \\ \hline & 3, 1, 5 \end{array}$$

The L.C.M. of 9, 15 and 25 =  $3 \times 5 \times 3 \times 5 = 225$

$$\begin{array}{r|l} 1 & \overline{225} \text{ (15)} \\ & 1 \\ \hline 25 & 125 \\ & 125 \\ \hline & 0 \end{array}$$

Here, 225 is a perfect square number and L.C.M. of 9, 15 and 25.

So, the required number is 225.

Ans: 225.