



Class – 7

Chapter – 1

### Rational and Irrational Number

#### Lecture sheet – 8

#### Word problem

**Example 1:** In a garden 36 trees were left excess while planting 1800 trees in square. Find out the number of trees in each row.

**Solution:** In a garden 36 trees were left excess while planting 1800 trees in square.

$$1800 - 36 = 1764$$

$$4 \ 17 \ 64 \ ( \ 42$$

$$16$$

$$82 \ 1 \ 64$$

$$1 \ 64$$

$$0$$

The number of trees in each row is 42.

Ans: 42 trees.

**Example 2:** Each member of a cooperative society subscribes 20 times the number of the members in Takas. The total amount raised being Tk. 20480, find the number of members of the society.

**Solution:** Let, the number of members of the society = x

$$1 \text{ member subscribes} = (20 \times x) \text{ Taka} = 20x \text{ Taka}$$

$$\therefore x \quad \text{“} \quad \text{“} \quad = (20x \times x) \text{ Taka} = 20x^2 \text{ Taka}$$

ATQ,

$$20x^2 = 20480$$

$$\text{Or, } x^2 = 20480 \div 20$$

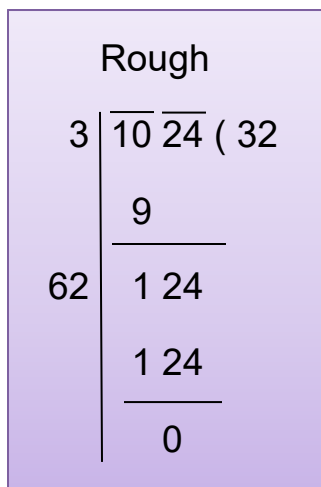
$$\text{Or, } x^2 = 1024$$

$$\text{Or, } x = \sqrt{1024}$$

$$\text{Or, } x = 32$$

$\therefore$  The number of members of the society = 32

Ans: 32.



Rough

$$\begin{array}{r} 3 \overline{) 1024} \quad ( 32 \\ \underline{9} \phantom{00} \\ 124 \\ \underline{124} \\ 0 \end{array}$$

**Example 3: The difference of squares of two consecutive numbers is 37. Find the two numbers.**

**Solution:** Let,

$$1^{\text{st}} \text{ number} = x$$

$$2^{\text{nd}} \text{ number} = x+1$$

ATQ,

$$(x+1)^2 - x^2 = 37$$

$$\text{Or, } x^2 + 2 \cdot x \cdot 1 + 1^2 - x^2 = 37 \quad [\because (a+b)^2 = a^2 + 2ab + b^2]$$

$$\text{Or, } x^2 + 2x + 1 - x^2 = 37$$

$$\text{Or, } 2x + 1 = 37$$

$$\text{Or, } 2x = 37 - 1$$

$$\text{Or, } 2x = 36$$

$$\text{Or, } x = 36 \div 2$$

$$\text{Or, } x = 18$$

$$\therefore 1^{\text{st}} \text{ number} = 18$$

$$\therefore 2^{\text{nd}} \text{ number} = 18+1 = 19$$

Ans: 18 and 19.

#### Exercise (Do yourself)

1. Labours were employed to reap paddy from a paddy field. The daily wage of each labour is 10 times of their numbers. If the total daily wage is Tk. 6250, find the number of labours.

2. Find two such least consecutive numbers so that the difference of squares of them is a perfect square number.