



Exercise 17B

Question 4:

Let the breadth of the plot be x meter

Area = Length \times Breadth = $(28 \times x)$ meter

= $28x \text{ m}^2$

$$\therefore 28x = 462 \Rightarrow x = \frac{462}{28} = 16.5 \text{ m}$$

Breadth of plot is = 16.5 m

Perimeter of the plot is = $2(\text{length} + \text{breadth})$

= $2(28 + 16.5) \text{ m} = 2(44.5) \text{ m} = 89 \text{ m}$

Question 5:

Let the breadth of rectangular hall be x m

Then, Length = $(x + 5)$ m

$$\begin{aligned}\therefore \text{Area} &= \text{length} \times \text{breadth} = [x \times (x + 5)] \text{ m}^2 \\ &= (x^2 + 5x) \text{ m}^2\end{aligned}$$

$$\therefore (x^2 + 5x) = 750$$

$$x^2 + 30x - 25x - 750 = 0$$

$$x(x + 30) - 25(x + 30) = 0$$

$$(x + 30)(x - 25) = 0$$

$$x = 25 [\text{Neglecting } x = -30]$$

Breadth = 25 m and length = $(25 + 5) \text{ m} = 30 \text{ m}$

Perimeter of rectangular hall = $2(\text{length} + \text{breadth})$

= $2(30 + 25) \text{ m} = (2 \times 55) \text{ m} = 110 \text{ m}$

Question 6:

Let the length of lawn be $5x$ m and breadth of the lawn be $3x$ m

Area of rectangular lawn = $(5x \times 3x) \text{ m}^2 = (15x^2) \text{ m}^2$

Area of lawn = 3375 m^2

$$15x^2 = 3375 \Rightarrow x^2 = \frac{3375}{15} = 225$$

$$x = \sqrt{225} = 15 \text{ m}$$

Length = $5 \times 15 = 75$

Breadth = $(3 \times 15) \text{ m} = 45 \text{ m}$

Perimeter of lawn = $2(\text{length} + \text{breadth})$

= $2(75 + 45) \text{ m} = 240 \text{ m}$

Cost of fencing the lawn per meter = Rs. 8.50 per meter

Cost of fencing the lawn = Rs. 8.50×240 = Rs. 2040

*****END*****