Exercise 17B

Question 4:
Let the breadth of the plot be x meter
Area = Length × Breadth = (28 × x) meter
= 28x 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(length + breadth)
= 2 (28 + 16.5) m = 2 (44.5) m = 89 m

Question 5:
Let the breadth of rectangular hall be x m
Then, Length = (x + 5) m

$$\therefore \text{Area} = \text{length} \times \text{breadth} = [x \times (x+5)]m^2$$
$$= (x^2 + 5x)m^2$$
$$\therefore (x^2 + 5x) = 750$$

$$x^2 + 30x - 25x - 750 = 0$$
$$x(x+30) - 25(x+30) = 0$$
$$(x+30)(x-25) = 0$$
$$x = 25 [\text{Neglecting } x = -30]$$

Breadth = 25 m and length = (25 + 5) m = 30 m
Perimeter of rectangular hall = 2(length + breadth)
= 2(30 + 25)m = (2 × 55) m = 110 m

Question 6:
Let the length of lawn be 5x m and breadth of the lawn be 3x m
Area of rectangular lawn = (5x × 3x) m^2 = ($15x^2$) 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 × 15 = 75
Breadth = (3 × 15)m = 45 m
Perimeter of lawn = 2(length + breadth)
=2 (75 + 45)m = 240 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 **********