

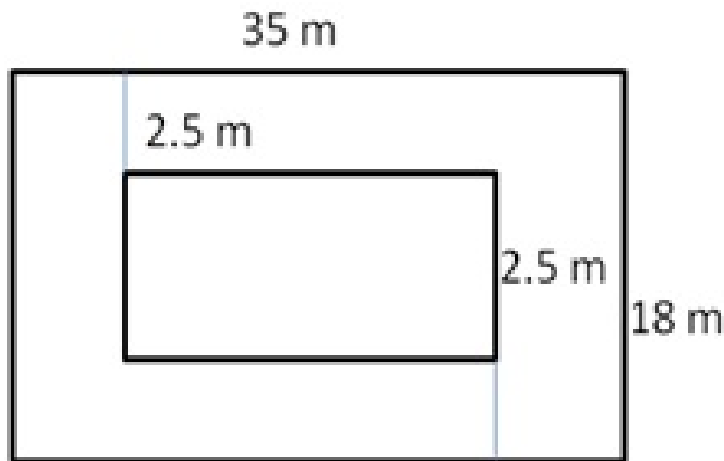


### Exercise 17B

Question 11:

Length of the park = 35 m

Breadth of the park = 18 m



$$\text{Area of the park} = (35 \times 18) \text{ m}^2 = 630 \text{ m}^2$$

$$\text{Length of the park with grass} = (35 - 5) = 30 \text{ m}$$

$$\text{Breadth of the park with grass} = (18 - 5) \text{ m} = 13 \text{ m}$$

$$\text{Area of park with grass} = (30 \times 13) \text{ m}^2 = 390 \text{ m}^2$$

Area of path without grass = Area of the whole park - area of park with grass

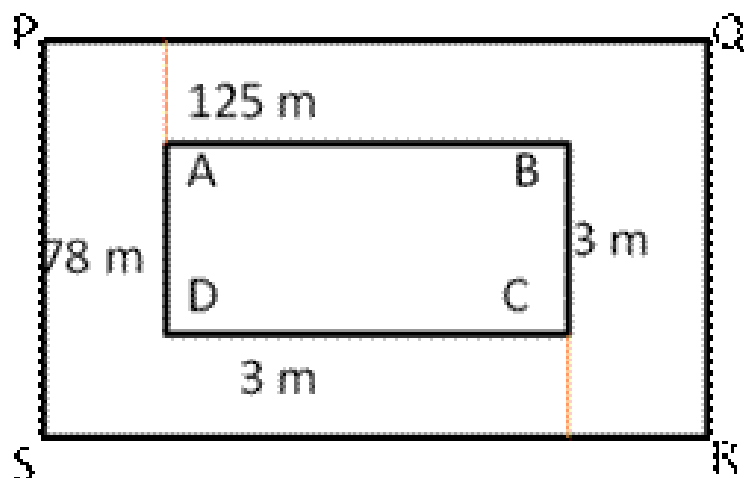
$$= 630 - 390 = 240 \text{ m}^2$$

Hence, area of the park to be laid with grass =  $240 \text{ m}^2$

Question 12:

Length of the plot = 125 m

Breadth of the plot = 78 m



$$\text{Area of plot ABCD} = (125 \times 78) \text{ m}^2 = 9750 \text{ m}^2$$

$$\text{Length of the plot including the path} = (125 + 3 + 3) \text{ m} = 131 \text{ m}$$

$$\text{Breadth of the plot including the path} = (78 + 3 + 3) \text{ m} = 84 \text{ m}$$

Area of plot PQRS including the path

$$= (131 \times 84) \text{ m}^2 = 11004 \text{ m}^2$$

Area of path = Area of plot PQRS - Area of plot ABCD

$$= (11004 - 9750) \text{ m}^2$$

$$= 1254 \text{ m}^2$$

Cost of gravelling = Rs 75 per  $\text{m}^2$

Cost of gravelling the whole path = Rs.  $(1254 \times 75)$  = Rs. 94050

Hence, cost of gravelling the path = Rs 94050

Question 13:

Area of rectangular field including the foot path =  $(54 \times 35) \text{ m}^2$

Let the width of the path be  $x \text{ m}$

Then, area of rectangle plot excluding the path =  $(54 \times 2x) \times (35 \times 2x)$

Area of path =  $(54 \times 35) + (54 \times 2x) (35 \times 2x)$

$$(54 \times 35) + (54 \times 2x) (35 \times 2x) = 420$$

$$1890 - 1890 + 108x + 70x - 4x^2 = 420$$

$$178x - 4x^2 = 420$$

$$4x^2 - 178x + 420 = 0$$

$$2x^2 - 89x + 210 = 0$$

$$2x^2 - 84x - 5x + 210 = 0$$

$$2x(x - 42) - 5(x - 42) = 0$$

$$(x - 42) (2x - 5) = 0$$

\*\*\*\*\* END \*\*\*\*\*