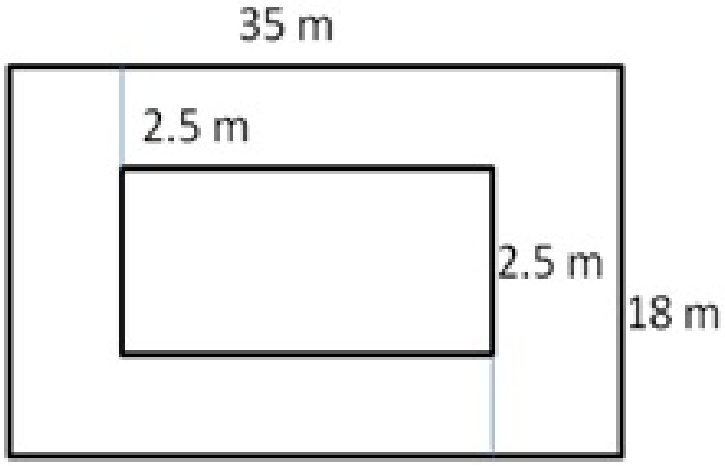
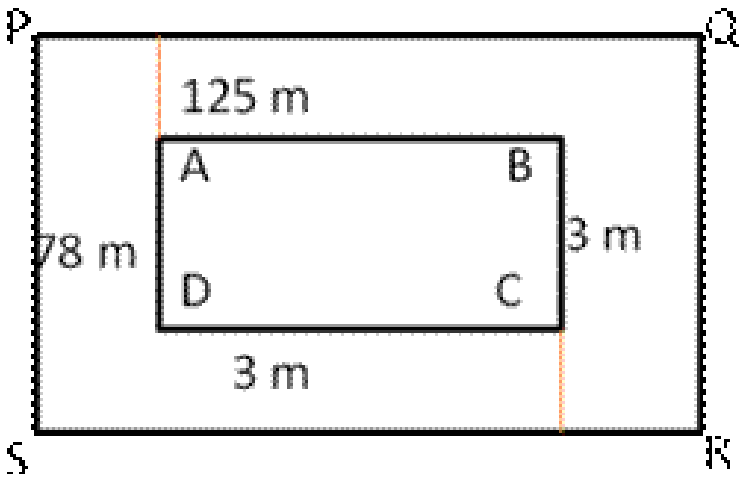
Exercise 17B

Question 11:
Length of the park = 35 m
Breadth of the park = 18 m



Area of the park = (35 × 18) m^2 = 630 m^2
Length of the park with grass =(35 - 5) = 30 m
Breadth of the park with grass = (18- 5) m = 13 m
Area of park with grass = (30 × 13) m^2 = 390 m^2
Area of path without grass = Area of the whole park - area of park with grass
= 630 - 390 = 240 m^2
Hence, area of the park to be laid with grass = 240 m^2

Question 12:
Length of the plot = 125 m
Breadth of the plot = 78 m



Area of plot ABCD = (125 × 78) m^2 = 9750 m^2
Length of the plot including the path = (125 + 3 + 3) m = 131 m
Breadth of the plot including the path = (78 + 3 + 3) m = 84 m
Area of plot PQRS including the path
= (131 × 84) m^2 = 11004 m^2

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

= (11004 - 9750) m^2

= 1254 m^2

Cost of gravelling = Rs 75 per m^2

Cost of gravelling the whole path = Rs. (1254 × 75) = Rs. 94050

Hence, cost of gravelling the path = Rs 94050

Question 13:

Area of rectangular field including the foot path = (54 × 35) m^2

Let the width of the path be x m

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

Area of path = (54 × 35) + (54 × 2x) (35 × 2x)

(54 × 35) + (54 × 2x) (35 × 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 **********