EXERCISE 11.1 PAGE: 208

1. The Length and the breadth of a rectangular piece of land are 500 m and 300 m respectively. Find
(i) Its area (ii) the cost of the land, if 1 m^2 of the land costs ₹ 10,000.
Solution:-
From the question it is given that,
Length of the rectangular piece of land = 500 m
Breadth of the rectangular piece of land = 300 m
Then,
(i) Area of rectangle = Length × Breadth
= 500 × 300
= 150000 m^2
(ii) Cost of the land for 1 m^2 = ₹ 10000
Cost of the land for 150000 m^2 = 10000 × 150000
= ₹ 1500000000

2. Find the area of a square park whose perimeter is 320m.
Solution:-
From the question it is given that,
Perimeter of the square park = 320 m
4 × Length of the side of park = 320 m
Then,
Length of the side of park = 320/4
= 80 m
So, Area of the square park = (length of the side of park)^2
= 80^2
= 6400 m^2

3. Find the breadth of a rectangular plot of land, if its area is 440 m^2 and the length is 22 m. Also find its perimeter.
Solution:-
From the question it is given that,
Area of the rectangular plot = 440 m^2
Length of the rectangular plot = 22 m
We know that,
Area of the rectangle = Length × Breadth

440 = 22 × Breadth
Breadth = 440/22
Breadth = 20 m

Then,
Perimeter of the rectangle = 2(Length + Breadth)
= 2 (22 + 20)
= 2(42)
= 84 m

∴Perimeter of the rectangular plot is 84 m.

4. The perimeter of a rectangular sheet is 100 cm. If the length is 35 cm, find its breadth.
Also find the area.
Solution:-
From the question it is given that,
Perimeter of the a rectangular sheet = 100 cm
Length of the rectangular sheet = 35 cm
We know that,
Perimeter of the rectangle = 2 (Length + Breadth)
100 = 2 (35 + Breadth)
(100/2) = 35 + Breadth
50 – 35 = Breadth
Breadth = 15 cm

Then,
Area of the rectangle = Length × Breadth
= 35 × 15
= 525 cm^2

∴Area of the rectangular sheet is 525 cm^2

5. The area of a square park is the same as of a rectangular park. If the side of the square park is 60 m and the length of the rectangular park is 90 m, find the breadth of the rectangular park.
Solution:-
From the question it is given that,
Area of a square park is the same as of a rectangular park.
Side of the square park = 60 m
Length of the rectangular park = 90 m

We know that,
Area of the square park = (one of the side of square)^2
$= 60^2$
$= 3600\ m^2$
Area of the rectangular park = 3600 m^2 … [∵ given]
Length × Breadth = 3600
90 × Breadth = 3600
Breadth = 3600/90
Breadth = 40 m

6. A wire is in the shape of a rectangle. Its length is 40 cm and breadth is 22 cm. If the same wire is rebent in the shape of a square, what will be the measure of each side. Also find which shape encloses more area?
Solution:-
By reading the question we can conclude that, perimeter of the square is same as perimeter of rectangle.
From the question it is given that,
Length of the rectangle = 40 cm
Breadth of the square = 22 cm
Then,
Perimeter of the rectangle = Perimeter of the Square
2 (Length + Breadth) = 4 × side
2 (40 + 22) = 4 × side
2 (62) = 4 × side
124 = 4 × side
Side = 124/4
Side = 31 cm
So, Area of the rectangle = (Length × Breadth)
$= 40 \times 22$
$= 880\ cm^2$
Area of square = side^2
$= 31^2$
$= 31 \times 31$
$= 961\ cm^2$
∴Square shaped wire encloses more area.

7. The perimeter of a rectangle is 130 cm. If the breadth of the rectangle is

30 cm, find its length. Also find the area of the rectangle.

Solution:-

From the question it is given that.

Perimeter of the rectangle = 130 cm

Breadth of the rectangle = 30

We know that,

Perimeter of rectangle = 2 (Length + Breadth)

130 = 2 (length + 30)

130/2 = length + 30

Length + 30 = 65

Length = 65 – 30

Length = 35 cm

Then,

Area of the rectangle = Length × Breadth

= 35 × 30

= 1050 cm^2

8. A door of length 2 m and breadth 1 m is fitted in a wall. The length of the wall is 4.5 m and the breadth is 3.6 m (Fig). Find the cost of white washing the wall, if the rate of white washing the wall is ₹ 20 per m^2.

Solution:-

From the question it is given that,

Length of the door = 2 m

Breadth of the door = 1 m

Length of the wall = 4.5 m

Breadth of the wall = 3.6 m

Then,

Area of the door = Length × Breadth

= 2 × 1

= 2 m^2

Area of the wall = Length × Breadth

= 4.5 × 3.6

= 16.2 m^2

So, Area to be white washed = 16.2 – 2 = 14.2 m^2

Cost of white washing 1 m^2 area = ₹ 20

Hence cost of whit washing 14.2 m^2 area = 14.2 × 20

= ₹ 284