CHAPTER – 9 Perimeter and Area | CLASS 7TH MATHS IMPORTANT QUESTIONS

Important Questions

Question 1.
The side of a square is 2.5 cm. Find its perimeter and area.
Solution:
Side of the square = 2.5 cm
Perimeter = 4 × Side = 4 × 2.5 = 10 cm
Area = (side)² = (4)² = 16 cm²

Question 2.
If the perimeter of a square is 24 cm. Find its area.
Solution:
Perimeter of the square = 24 cm
Side of the square = 244 cm = 6 cm
Area of the square = (Side)² = (6)² cm² = 36 cm²

Question 3.
If the length and breadth of a rectangle are 36 cm and 24 cm respectively. Find
(i) Perimeter
(ii) Area of the rectangle.
Solution:
Length = 36 cm, Breadth = 24 cm
(i) Perimeter = 2(l + b) = 2(36 + 24) = 2 × 60 = 120 cm
(ii) Area of the rectangle = l × b = 36 cm × 24 cm = 864 cm²

Question 4.
The perimeter of a rectangular field is 240 m. If its length is 90 m, find:
(i) it's breadth
(ii) it's area.
Solution:
(i) Perimeter of the rectangular field = 240 m
2(l + b) = 240 m
l + b = 120 m
90 m + b = 120 m
b = 120 m – 90 m = 30 m

So, the breadth = 30 m.
(ii) Area of the rectangular field = l × b = 90 m × 30 m = 2700 m²
So, the required area = 2700 m²

Question 5.
The length and breadth of a rectangular field are equal to 600 m and 400 m respectively.
Find the cost of the grass to be planted in it at the rate of ₹ 2.50 per m².
Solution:
Length = 600 m, Breadth = 400 m
Area of the field = l × b = 600 m × 400 m = 240000 m²
Cost of planting the grass = ₹ 2.50 × 240000 = ₹ 6,00,000
Hence, the required cost = ₹ 6,00,000.

Question 6.
The perimeter of a circle is 176 cm, find its radius.
Solution:
The perimeter of the circle = 176 cm

$$2\pi r = 176$$
$$2 \times \frac{22}{7} \times r = 176$$
$$\therefore r = \frac{176 \times 7}{2 \times 22} = 4 \times 7 = 28 \text{ cm}$$

Question 7.
The radius of a circle is 3.5 cm, find its circumference and area.
Solution:
Radius = 3.5 cm
Circumference = 2πr

$$= 2 \times \frac{22}{7} \times 3.5 = 22 \text{ cm}$$
$$\text{Area} = \pi r^2$$
$$= \frac{22}{7} \times 3.5 \times 3.5$$
$$= \frac{77}{2} = 38.5 \text{ cm}^2$$

Question 8.
Area of a circle is 154 cm², find its circumference.
Solution:
Area of the circle = 154 cm²

$$\pi r^2 = 154$$
$$\frac{22}{7} \times r^2 = 154$$
$$r^2 = 154 \times \frac{7}{22}$$
$$r^2 = 7 \times 7$$
$$r^2 = (7)^2$$
$$r^2 = (7)^2$$
$$\Rightarrow \quad r = 7 \text{ cm}$$
Circumference of the circle = 2πr
$$= 2 \times \frac{22}{7} \times 7 = 44 \text{ cm}$$

Question 9.
Find the perimeter of the figure given below.

Solution:
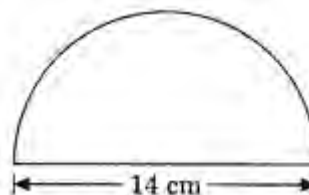Perimeter of the given figure = Circumference of the semicircle + diameter
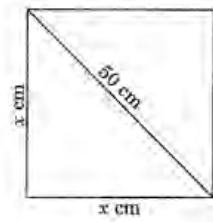= πr + 2r
= 227 × 7 + 2 × 7
= 22 + 14
= 36 cm
Hence, the required perimeter = 36 cm.

14 cm

Question 10.

The length of the diagonal of a square is 50 cm, find the perimeter of the square.

Solution:

Let each side of the square be x cm.

$x^2 + x^2 = (50)^2$ [Using Pythagoras Theorem]

$2x^2 = 2500$

$x^2 = 1250$

2	1250
5	625
5	125
5	25
5	5
	1

$x = \sqrt{1250} = 2×5×5×5×5 ------------- \sqrt{}$

$x = 5 × 5 × \sqrt{2} = 25\sqrt{2}$

The side of the square = $25\sqrt{2}$ cm

Perimeter of the square = 4 × side = 4 × $25\sqrt{2}$

= $100\sqrt{2}$ cm