

Board – CBSE

Class – 7th

Topic – Perimeter and Area 11.1

**Q.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<sup>2</sup> of the land costs Rs 10,000.

**Sol:** (i) Area = Length × Breadth

$$\text{Area} = 500 \times 300$$

$$\text{Area} = 150000 \text{ m}^2$$

(ii) Cost of 1 m<sup>2</sup> land = Rs 10000

$$\text{Cost of } 150000 \text{ m}^2 \text{ land} = 10000 \times 150000 = \text{Rs } 1500000000$$

**Q.2** Find the area of a square park whose perimeter is 320 m.

**Sol:** Perimeter = 320 m

$$4 \times \text{Length of the side of park} = 320$$

$$\text{Length of the side of park} = \frac{320}{4} = 80 \text{ m}$$

$$\text{Area} = (\text{Length of the side of park})^2 = (80)^2 = 6400 \text{ m}^2$$

**Q.3** Find the breadth of a rectangular plot of land, if its area is 440 m<sup>2</sup> and the length is 22 m. Also find its perimeter.

**Sol:** Area = Length × Breadth = 440 m<sup>2</sup>

$$22 \times \text{Breadth} = 440$$

$$\text{Breadth} = \frac{440}{22} = 20 \text{ m}$$

$$\text{Perimeter} = 2 (\text{Length} + \text{Breadth})$$

$$= 2 (22 + 20) = 2 (42) = 84 \text{ m}^2$$

**Q.4** The perimeter of a rectangular sheet is 100 cm. If the length is 35 cm, find its breadth. Also find the area.

**Sol:** Perimeter = 2 (Length + Breadth) = 100 cm

$$2 (35 + \text{Breadth}) = 100$$

$$35 + B = 50$$

$$B = 50 - 35 = 15 \text{ cm}$$

$$\text{Area} = \text{Length} \times \text{Breadth} = 35 \times 15 = 525 \text{ cm}^2$$

**Q.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.

**Sol:** Area of square park = (One of its sides)<sup>2</sup> = (60)<sup>2</sup> = 3600 m<sup>2</sup>

$$\text{Area of rectangular park} = \text{Length} \times \text{Breadth} = 3600$$

$$90 \times \text{Breadth} = 3600$$

$$\text{Breadth} = 40 \text{ m}$$

**Q.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?

**Sol:** Perimeter of rectangle = Perimeter of square

$$2 (\text{Length} + \text{Breadth}) = 4 \times \text{Side}$$

$$2 (40 + 22) = 4 \times \text{Side}$$

$$2 \times 62 = 4 \times \text{Side}$$

$$\text{Side} = 31 \text{ cm}$$

$$\text{Area of rectangle} = 40 \times 22 = 880 \text{ cm}^2$$

$$\text{Area of square} = (\text{Side})^2 = 31 \times 31 = 961 \text{ cm}^2$$

Therefore, the square-shaped wire encloses more area.

**Q.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.

**Sol:** Perimeter = 2 (Length + Breadth) = 130

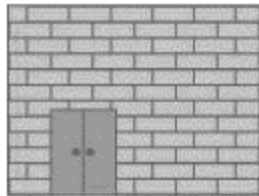
$$2 (\text{Length} + 30) = 130$$

$$\text{Length} + 30 = 65$$

$$\text{Length} = 65 - 30 = 35 \text{ cm}$$

$$\text{Area} = \text{Length} \times \text{Breadth} = 35 \times 30 = 1050 \text{ cm}^2$$

- Q.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 (see the given figure). Find the cost of white washing the wall, if the rate of white washing the wall is Rs 20 per  $\text{m}^2$ .



**Sol:** Area of wall =  $4.5 \times 3.6 = 16.2 \text{ m}^2$   
Area of door =  $2 \times 1 = 2 \text{ m}^2$   
Area to be white-washed =  $16.2 - 2 = 14.2 \text{ m}^2$   
Cost of white-washing  $1 \text{ m}^2$  area = Rs 20  
 $\therefore$  Cost of white-washing  $14.2 \text{ m}^2$  area =  $14.2 \times 20 = \text{Rs } 284$