



Mensuration I Ex 20.1 Q7

Answer :

We have,

$$\begin{aligned}\text{Perimeter the of rectangle} &= 2(\text{Length} + \text{Breadth}) \\ &= 2(40 \text{ cm} + 22 \text{ cm}) = 124 \text{ cm}\end{aligned}$$

It is given that the wire which was in the shape of a rectangle is now bent into a square.

Therefore, the perimeter of the square = Perimeter of the rectangle

$$\Rightarrow \text{Perimeter of the square} = 124 \text{ cm}$$

$$\Rightarrow 4 \times \text{side} = 124 \text{ cm}$$

$$\therefore \text{Side} = \frac{124}{4} = 31 \text{ cm}$$

Now,

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

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

Therefore, the square-shaped wire encloses more area.

Mensuration I Ex 20.1 Q8

Answer :

We have,

$$\text{Length of the glass pane} = 25 \text{ cm}$$

$$\text{Breadth of the glass pane} = 16 \text{ cm}$$

$$\text{Area of one glass pane} = 25 \text{ cm} \times 16 \text{ cm} = 400 \text{ cm}^2 = 0.04 \text{ m}^2 \quad [\text{Since } 1 \text{ m}^2 = 10000 \text{ cm}^2]$$

Thus,

$$\text{Area of 12 such panes} = 12 \times 0.04 = 0.48 \text{ m}^2$$

Mensuration I Ex 20.1 Q9

Answer :

We have,

$$\text{Area of the wall} = 3 \text{ m} \times 4 \text{ m} = 12 \text{ m}^2$$

$$\text{Area of one marble tile} = 10 \text{ cm} \times 12 \text{ cm} = 120 \text{ cm}^2 = 0.012 \text{ m}^2 \quad [\text{Since } 1 \text{ m}^2 = 10000 \text{ cm}^2]$$

Thus,

$$\text{Number of tiles} = \frac{\text{Area of wall}}{\text{Area of one tile}} = \frac{12 \text{ m}^2}{0.012 \text{ m}^2} = 1000$$

$$\text{Cost of one tile} = \text{Rs. } 2$$

$$\text{Total cost} = \text{Number of tiles} \times \text{Cost of one tile}$$

$$= \text{Rs. } (1000 \times 2) = \text{Rs. } 2000$$

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