



Mensuration I Ex 20.1 Q13

Answer :

We have,

Length of the rectangular field = 290 m

Breadth of the rectangular field = 210 m

Perimeter of the rectangular field = $2(\text{Length} + \text{Breadth})$
 $= 2(290 + 210) = 1000 \text{ m}$

Distance covered by the girl = $2 \times \text{Perimeter of the rectangular field}$
 $= 2 \times 1000 = 2000 \text{ m}$

The girl walks at the rate of 1.5 m/sec.

or,

Rate = $1.5 \times 60 \text{ m/min} = 90 \text{ m/min}$

Thus,

Required time to cover a distance of 2000 m = $\frac{2000 \text{ m}}{90 \text{ m/min}} = 22 \frac{2}{9} \text{ min}$

Hence, the girl will take $22 \frac{2}{9} \text{ min}$ to go two times around the field.

Mensuration I Ex 20.1 Q14

Answer :

We have,

Length of the corridor = 8 m

Breadth of the corridor = 6 m

Area of the corridor of a school = Length \times Breadth = $(8 \text{ m} \times 6 \text{ m}) = 48 \text{ m}^2$

Length of the canvas sheet = 2 m

Breadth of the canvas sheet = 1 m

Area of one canvas sheet = Length \times Breadth = $(2 \text{ m} \times 1 \text{ m}) = 2 \text{ m}^2$

Thus,

Number of canvas sheets = $\frac{48 \text{ m}^2}{2 \text{ m}^2} = 24$

Cost of one canvas sheet = Rs. 8

\therefore Total cost of the canvas sheets = Rs. $(24 \times 8) = \text{Rs. } 192$

Mensuration I Ex 20.1 Q15

Answer :

We have,

Length of a playground = 62 m 60 cm = 62.6 m [Since 10 cm = 0.1 m]

Breadth of a playground = 25 m 40 cm = 25.4 m

Area of a playground = Length x Breadth = 62.6 m x 25.4 m = 1590.04 m²

Rate of turfing = Rs. 2.50/m²

∴ Total cost of turfing = Rs. (1590.04 x 2.50) = Rs. 3975.10

Again,

Perimeter of a rectangular field = 2(Length + Breadth)

$$= 2(62.6 + 25.4) = 176 \text{ m}$$

Distance covered by the man in 3 rounds of a field = 3 x Perimeter of a rectangular field

$$= 3 \times 176 \text{ m} = 528 \text{ m}$$

The man walks at the rate of 2 m/sec.

or,

$$\text{Rate} = 2 \times 60 \text{ m/min} = 120 \text{ m/min}$$

Thus,

$$\text{Required time to cover a distance of 528 m} = \frac{528 \text{ m}}{120 \text{ m/min}} = 4.4 \text{ min}$$

$$= 4 \text{ minutes } 24 \text{ seconds} \quad [\text{since } 0.1 \text{ minutes} = 6 \text{ seconds}]$$

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