



Mensuration I Ex 20.4 Q7

Answer :

We have,

$AC = 84 \text{ cm}$, $DL = 16.5 \text{ cm}$ and $BM = 12 \text{ cm}$

$$\begin{aligned}\text{Area of } \triangle ADC &= \frac{1}{2} \times AC \times DL \\ &= \frac{1}{2} \times 84 \text{ cm} \times 16.5 \text{ cm} = 693 \text{ cm}^2 \\ \text{Area of } \triangle ABC &= \frac{1}{2} \times AC \times BM \\ &= \frac{1}{2} \times 84 \text{ cm} \times 12 \text{ cm} = 504 \text{ cm}^2\end{aligned}$$

Hence,

$$\begin{aligned}\text{Area of quadrilateral } ABCD &= \text{Area of } \triangle ADC + \text{Area of } \triangle ABC \\ &= (693 + 504) \text{ cm}^2 \\ &= 1197 \text{ cm}^2\end{aligned}$$

Mensuration I Ex 20.4 Q8

Answer :

We have,

Diagonal $AC = 48 \text{ cm}$ and diagonal $BD = 32 \text{ m}$

$$\begin{aligned}\therefore \text{Area of a quadrilateral} &= \frac{1}{2} \times \text{Product of diagonals} \\ &= \frac{1}{2} \times AC \times BD \\ &= \left(\frac{1}{2} \times 48 \times 32\right) \text{ m}^2 = (24 \times 32) \text{ m}^2 = 768 \text{ m}^2\end{aligned}$$

Mensuration I Ex 20.4 Q9

Answer :

We have,

Area of the rectangle = $AB \times BC$

$$\begin{aligned}&= 32 \text{ m} \times 18 \text{ m} \\ &= 576 \text{ m}^2\end{aligned}$$

Area of the triangle = $\frac{1}{2} \times AD \times FE$

$$\begin{aligned}&= \frac{1}{2} \times BC \times FE \quad [\text{Since } AD = BC] \\ &= \frac{1}{2} \times 18 \text{ m} \times 14 \text{ m} \\ &= 9 \text{ m} \times 14 \text{ m} = 126 \text{ m}^2\end{aligned}$$

$$\begin{aligned}\therefore \text{Area of the shaded region} &= \text{Area of the rectangle} - \text{Area of the triangle} \\ &= (576 - 126) \text{ m}^2 \\ &= 450 \text{ m}^2\end{aligned}$$

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