



Exercise 18A

Q9.

Answer :

$$\begin{aligned}\text{Length of the side AB} &= (130 - (54 + 19 + 42)) \text{ m} \\ &= 15 \text{ m}\end{aligned}$$

$$\begin{aligned}\text{Area of the trapezium-shaped field} &= \left\{ \frac{1}{2} \times (\text{AD} + \text{BC}) \times \text{AB} \right\} \\ &= \left\{ \frac{1}{2} \times (42 + 54) \times 15 \right\} \text{ m}^2 \\ &= \left(\frac{1}{2} \times 96 \times 15 \right) \text{ m}^2 \\ &= (48 \times 15) \text{ m}^2 \\ &= 720 \text{ m}^2\end{aligned}$$

Hence, the area of the field is 720 m^2 .

Q10.

Answer :

$$\angle \text{ABC} = 90^\circ$$

From the right $\triangle \text{ABC}$, we have :

$$\begin{aligned}\text{AB}^2 &= (\text{AC}^2 - \text{BC}^2) \\ \Rightarrow \text{AB}^2 &= \left\{ (41^2) - (40^2) \right\} \\ \Rightarrow \text{AB}^2 &= (1681 - 1600) \\ \Rightarrow \text{AB}^2 &= 81 \\ \Rightarrow \text{AB} &= \sqrt{81} \\ \Rightarrow \text{AB} &= 9 \text{ cm} \\ \therefore \text{Length AB} &= 9 \text{ cm}\end{aligned}$$

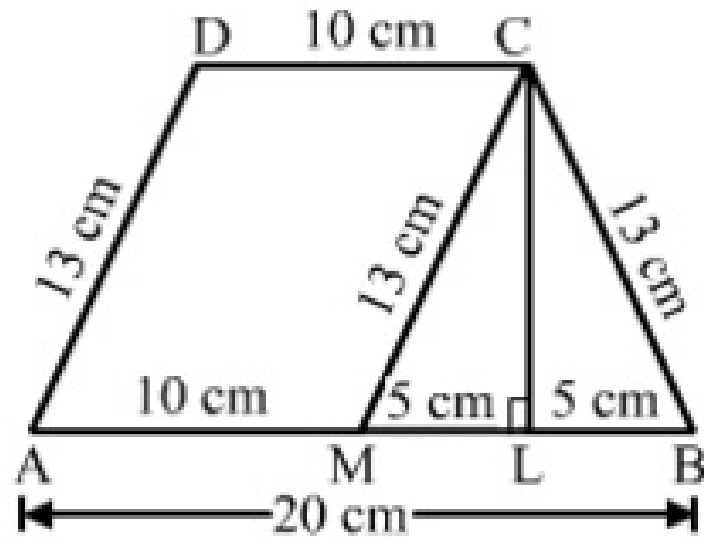
Now,

$$\begin{aligned}\text{Area of the trapezium} &= \left\{ \frac{1}{2} \times (\text{AD} + \text{BC}) \times \text{AB} \right\} \\ &= \left(\frac{1}{2} \times (16 + 40) \times 9 \right) \text{ cm}^2 \\ &= \left(\frac{1}{2} \times 56 \times 9 \right) \text{ cm}^2 \\ &= (28 \times 9) \text{ cm}^2 \\ &= 252 \text{ cm}^2\end{aligned}$$

Hence, the area of the trapezium is 252 cm^2 .

Q11.

Answer :



Let ABCD be the given trapezium in which $AB \parallel DC$, $AB = 20$ cm, $DC = 10$ cm and $AD = BC = 13$ cm.
Draw $CL \perp AB$ and $CM \parallel DA$ meeting AB at L and M , respectively.
Clearly, AMCD is a parallelogram.

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