



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  $720 \text{ m}^2$ .

Q10.

Answer :

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

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

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

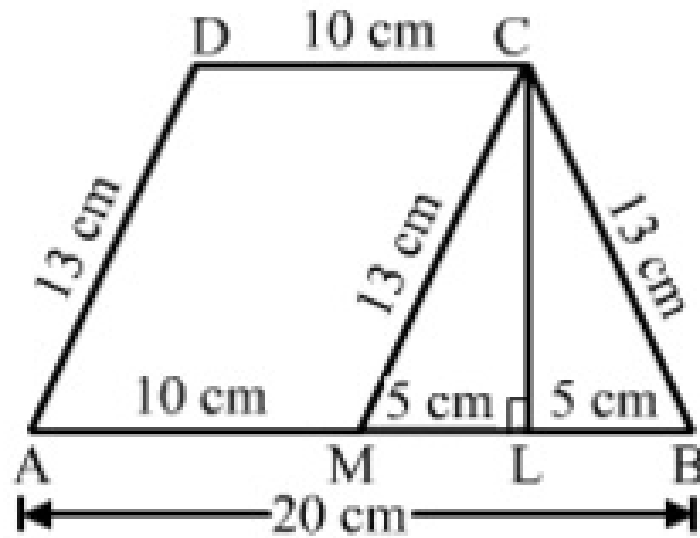
Now,

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

Hence, the area of the trapezium is  $252 \text{ cm}^2$ .

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.

\*\*\*\*\* END \*\*\*\*\*