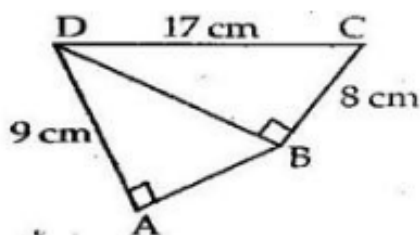




Exercise 10A

Question 5:

(i) ABCD is a quadrilateral.



Now in right angled  $\triangle DBC$ ,

$$\begin{aligned}DB^2 &= DC^2 - CB^2 \\&= 17^2 - 8^2 \\&= 289 - 64 = 225 \text{ cm}^2\end{aligned}$$

$$\therefore DB = \sqrt{225} = 15 \text{ cm}$$

$$\text{So, area of } \triangle DBC = \left(\frac{1}{2} \times 15 \times 8\right) \text{ cm}^2 = 60 \text{ cm}^2$$

Again, in right angled  $\triangle DAB$ ,

$$\begin{aligned}AB^2 &= DB^2 - AD^2 \\&= 15^2 - 9^2 \\&= 225 - 81 = 144 \text{ cm}^2\end{aligned}$$

$$\therefore AB = \sqrt{144} = 12 \text{ cm}$$

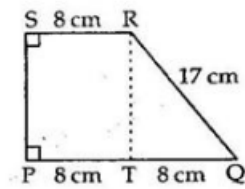
$$\therefore \text{area of } \triangle DAB = \left(\frac{1}{2} \times 12 \times 9\right) \text{ cm}^2 = 54 \text{ cm}^2$$

So, area of quadrilateral ABCD

$$\begin{aligned}&= \text{Area of } \triangle DBC + \text{Area of } \triangle DAB \\&= (60 + 54) \text{ cm}^2 = 114 \text{ cm}^2\end{aligned}$$

$$\therefore \text{area of quadrilateral ABCD} = 114 \text{ cm}^2$$

(ii)



$RT \perp PQ$

In right angled  $\triangle RTQ$

$$RT^2 = RQ^2 - TQ^2$$

$$= 17^2 - 8^2$$

$$= 289 - 64 = 225 \text{ cm}^2$$

$$\therefore RT = \sqrt{225} = 15 \text{ cm}$$

$\therefore$  Area of trapezium =  $\frac{1}{2}(\text{sum of parallel sides}) \times \text{distance between them}$

$$= \frac{1}{2} \times (PQ + SR) \times RT$$

$$= \frac{1}{2} \times (16 + 8) \times 15$$

$$= \left( \frac{1}{2} \times 24 \times 15 \right) \text{ cm}^2 = 180 \text{ cm}^2$$

$$\therefore \text{area of trapezium} = 180 \text{ cm}^2$$

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