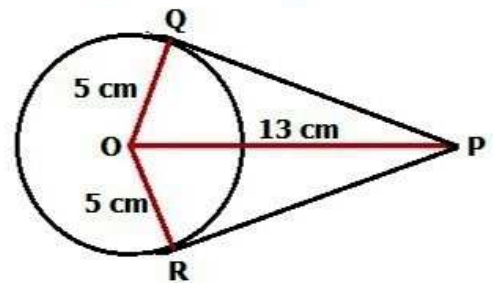


④  $\angle ORP = 90^\circ$  [angle between radius and tangent]



In rt  $\Delta ORP$

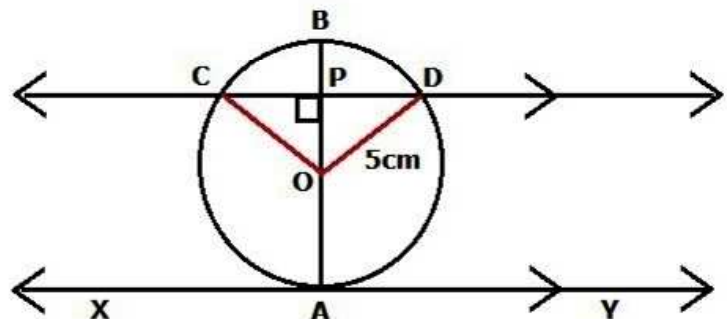
$$\begin{aligned} PR &= \sqrt{OP^2 - OR^2} \text{ [Pyth. th.]} \\ &= \sqrt{13^2 - 5^2} \\ &= \sqrt{169 - 25} \\ &= \sqrt{144} \\ &= 12 \text{ cm} \end{aligned}$$

$$\begin{aligned} \text{ar}(\Delta ORP) &= \frac{1}{2} \times OR \times RP \\ &= \frac{1}{2} \times 5 \times 12 \\ &= 30 \text{ cm}^2 \end{aligned}$$

Similarly  $\text{ar}(\Delta OQP) = 30 \text{ cm}^2$

$$\begin{aligned} \text{ar}(\square PQOR) &= 2 \times 30 \\ &= 60 \text{ cm}^2 \text{ (A)} \end{aligned}$$

⑤  $OP = PA - DA$   
 $= 8 - 5$   
 $= 3 \text{ cm}$



In rt  $\Delta OPC$

$$\begin{aligned} CP &= \sqrt{OC^2 - OP^2} \text{ (pyth. th.)} \\ &= \sqrt{5^2 - 3^2} \\ &= \sqrt{25 - 9} \\ &= \sqrt{16} \\ &= 4 \text{ cm} \end{aligned}$$

$$\begin{aligned} CD &= 2(CP) \\ &= 2 \times 4 \\ &= 8 \text{ cm} \end{aligned}$$

(D)

[Perpendicular from centre of  $\odot$  to the chord bisects it]