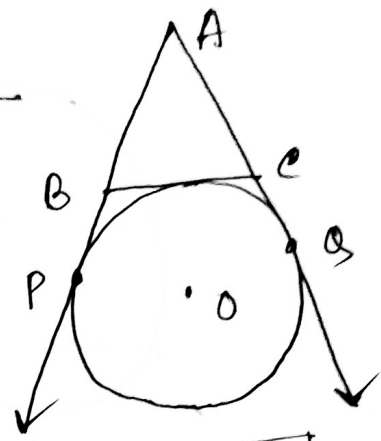


Circles F.M.-16

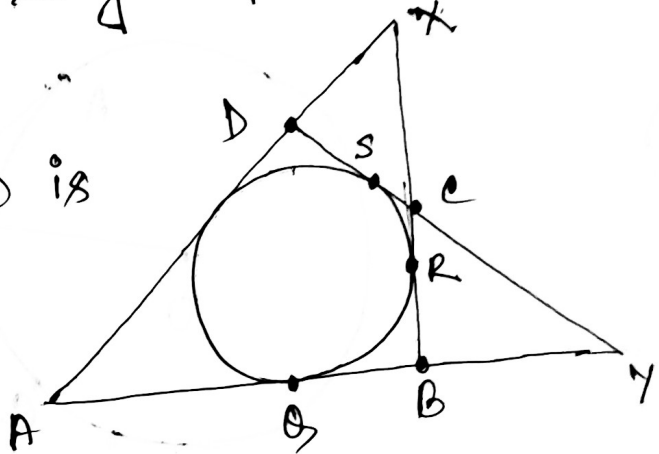
- ① In the adjoining figure, AP, AQ and BC are three tangents to circle $C(O, r)$.

If $AB = 5 \text{ cm}$, $AC = 6 \text{ cm}$,

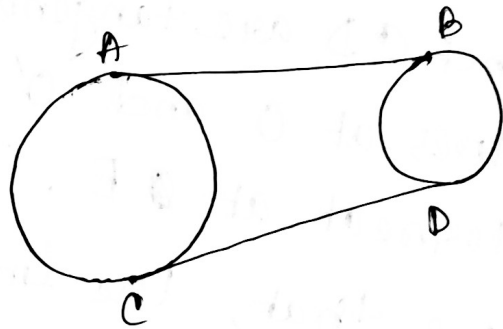
$BC = 4 \text{ cm}$, find the length of AP. [2]



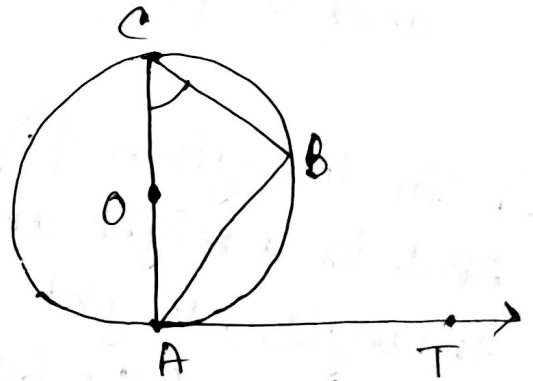
- ② In the figure, ABCD is a quadrilateral circumscribing a circle. DCY, ABY, ADX and BCX are straight lines. Prove that $XB + BY = XD + DY$ [3]



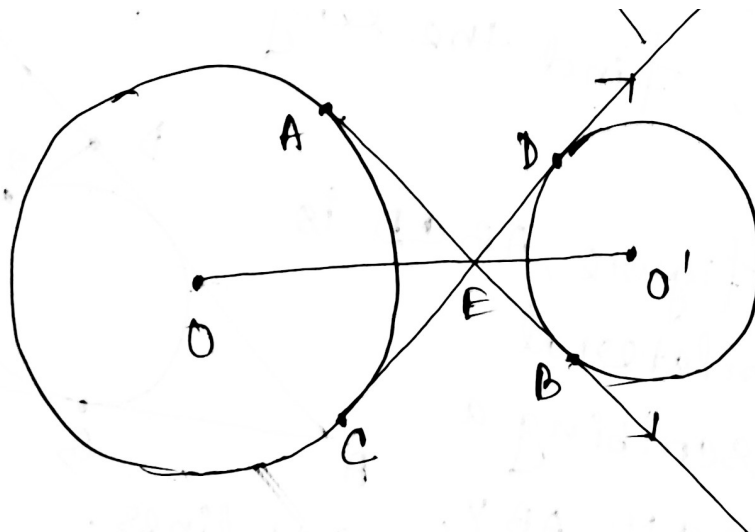
- ③ If AB and CD are common tangents to two circles of unequal radii. Prove that, $AB = CD$ [3]



- ④ If AB is a chord of a circle with center O, AOC is a diameter and AT is the tangent at A as shown in figure. Prove that, $\angle BAT = \angle ACB$ [2]



5



In the above figure, the common tangent, AB and CD are tangents to two circles with centres at O and O' respectively. The tangents intersect at E. ~~The line joining~~
 Prove that, the line joining the centres O and O' passes through the point E. [3]

6 In the given figure, ABC is a right angled triangle, right angled at A, with AC = 6 cm & AB = 8 cm. A circle with centre at 'O' is inscribed inside $\triangle ABC$. Find the radius of the circle. [3]

