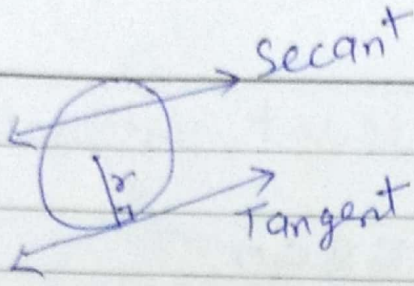
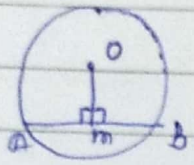
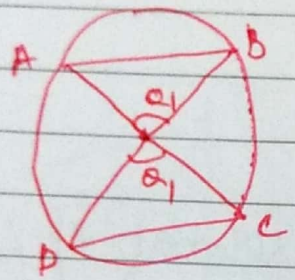
CIRCLE



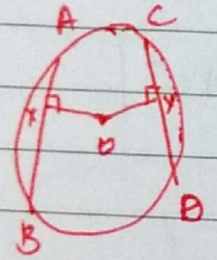
r makes 90° @ tangent



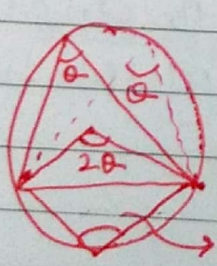
perpendicular from centre bisects the chord AM = MB



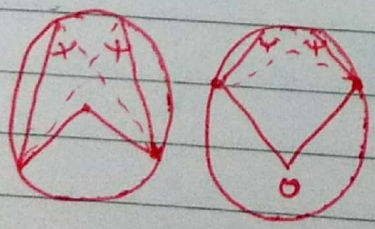
if $\theta_1 = \theta_2$ then AB = CD
AB = CD then $\theta_1 = \theta_2$



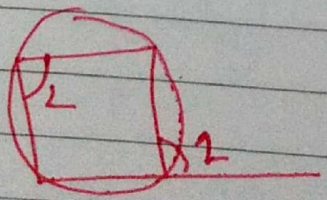
Equal chords are equidistant from centre.
if OX ⊥ AB, OY ⊥ CD then
OX = OY then AB = CD
vice versa also true.



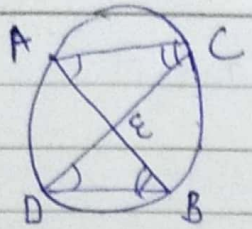
@ centre = 2 × major arc
minor arc → 180 - θ.



Angle in same segment of circle is equal.

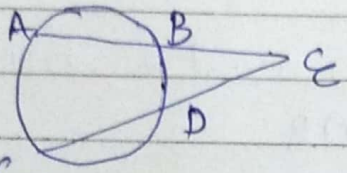


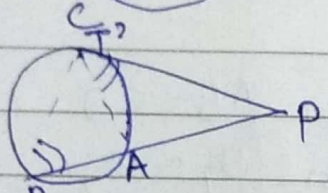
$\angle 1 = \angle 2$



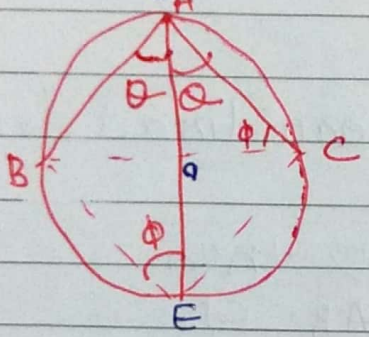
if two chords Intersect internal or external.

$AE \times EB = CE \times ED$



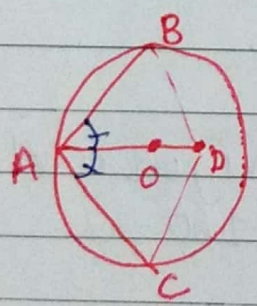


$PT^2 = PA \times PB$

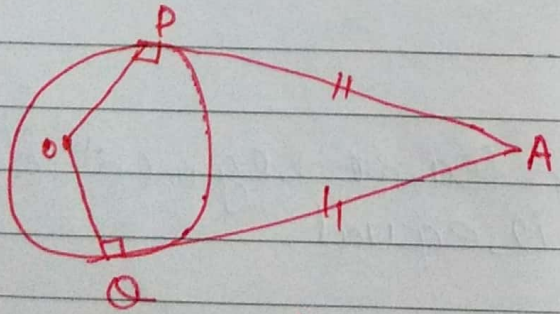


AE is angle Bisector of $\angle BAC$ then.

$[AB.AC + BE.AE = AE^2]$



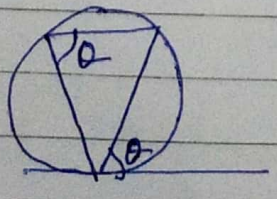
If AB = AC and AD is angle Bisector then It passes through centre.

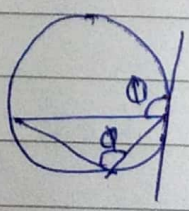


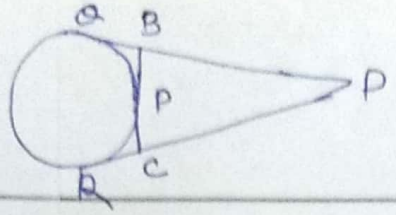
$OP \perp AP$ $\quad AP = AQ$

$OQ \perp AQ$

Alternate Seg :-

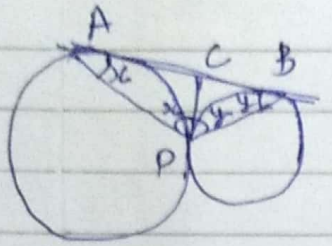






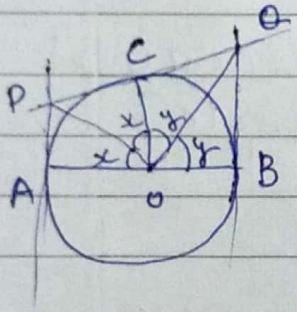
$\Delta ABC = 2a$ (Perimeter)

$a = PQ = PR$

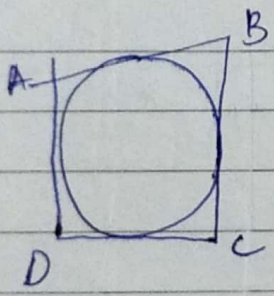


$\angle APB = 90°$ Always

$x + y = 90°$

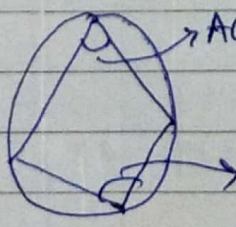


$\angle POQ = 90°$



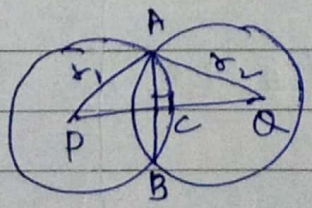
$AB + CD = AD + BC$

Two circle :-



ACUTE ANGLE

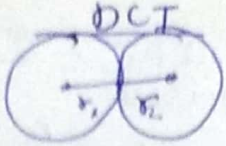
OBTUSE ANGLE



$$PQ = \sqrt{r_1^2 - \left(\frac{AB}{2}\right)^2} + \sqrt{r_2^2 - \left(\frac{AB}{2}\right)^2}$$

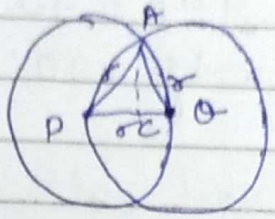
If $PAQ = 90°$ then $PA \times PQ = PQ \times AC$?

DCT



$= 2\sqrt{r_1 r_2}$

Case 2 If each circle passes through the centre of other

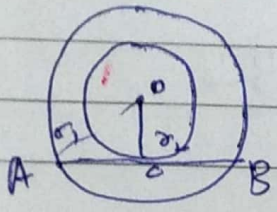


ΔAPO is equilateral Triangle

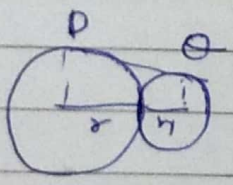
$AC = \frac{\sqrt{3}}{2} r$ [Height of equilat Triangle]

$[2AC = \sqrt{3} r]$

Concentric Circle

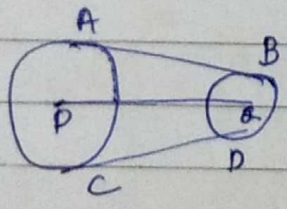


$AB = 2AC = 2\sqrt{r_1^2 - r_2^2}$

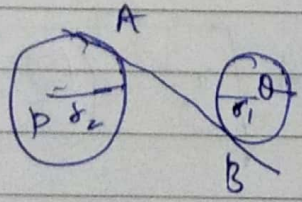


touch each other

$PO = \sqrt{4 r_1 r_2} = 2\sqrt{r_1 r_2}$

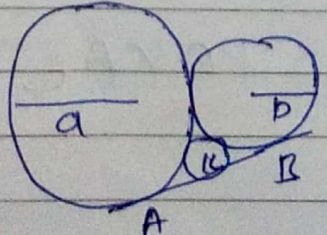


$AB \& CD = \sqrt{PO^2 - (r_1 - r_2)^2}$



$AB = \sqrt{PO^2 - (r_1 + r_2)^2}$

$AB = DCT$



$\left[\frac{1}{\sqrt{c}} = \frac{1}{\sqrt{a}} + \frac{1}{\sqrt{b}}\right]$