

Tangents

Class : XII

Subjectnotes

Quadratic Equation

- 1 If two tangents are drawn to a circle from an external point, then(i) they subtend equal angles at the centre. (ii) they are equally inclined to the segment joining the centre to that point
- 2 prove that the angle between the two tangents drawn from an external point to a circle is supplementary to the angle subtended by the line segment joining the points at the centre
- 3 a circle touches all four sides of a quadrilateral ABCD , whose sides AB=6cm BC=7cm and CD=4cm . find AD
- 4 a circle is inscribed in a triangle ABC , having sides 8cm , 10cm and 12cm ,where D,E,F are points of tangency of AB,BC, and CA respectively find AD,BE,CF
- 5 A circle touches the side BC of a triangle ABC at P and touches AB and AC when produced at Q and R respectively show that $AQ = \frac{1}{2}$ (perimeter of triangle ABC)
- 6 In a right triangle ABC , the perpendicular BD on the hypotenuse AC is drawn. Prove that $AC \cdot CD = BC^2$ [$AC \cdot AD = AB^2$, now $AC \cdot CD = AC \cdot (AC - AD)$
- 7 ABC is a triangle in which $AB = AC$, A circle through B touches AC at D and intersects AB at P. If D is the midpoint of AC, show that $4AP = AB$
- 8 In a right triangle ABC , the perpendicular BD on the hypotenuse AC is drawn. Prove that $AC \cdot AD = AB^2$
- 9 TAS is a tangent to the circle, with centre O, at the point A. If $\angle OBA = 32^\circ$ find the values of x and y(eg31)
- 10 In a cyclic quadrilateral PQRS, the diagonal RP bisects the angle R , prove that diagonal QS is parallel to the tangent at P to the circle through P,Q,R,S(eg35)
- 11 AP is tangent to the circle at P. ABC is a secant such that PD is the bisector of $\angle BPC$. Prove that $\angle BPD = \frac{1}{2} [\angle ABP - \angle APB]$ Eg37]
- 12 Two circles intersect in points P and Q . A secant passing through P intersects the circles in A and B respectively. Tangents to the circles at A and B intersect at T. prove that A,Q,T,B are co cyclic
- 13 In the given figure, PT touches the circle, whose centre is at O. diameter SQ when produced meets PT at P. if $\angle SPR = x^\circ$ and $\angle QRP = y^\circ$ show that $x + 2y = 90^\circ$ [464.12]
- 14 Two circles $C(O, r)$ and $C(O', r')$ intersect each other at A and B . PQ is a common tangent touching the circles at the points P and Q respectively. prove that $\angle PAQ + \angle PBQ = 180^\circ$