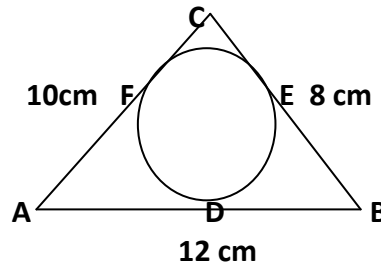
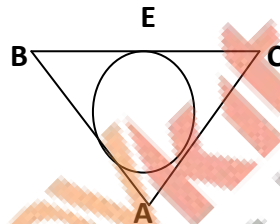


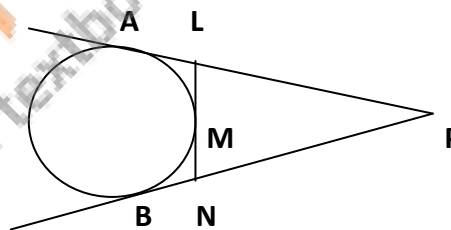
- Two tangents PA and PB are drawn from an external point P to a circle with centre o. Prove that AOBP is a cyclic quadrilateral
- Prove that the parallelogram circumscribing a circle is a rhombus
- Two tangents PQ and PR are drawn to a circle with centre o from an external point P. Prove that $\angle QPR = 2 \angle OQR$
- If circle is inscribed in a $\triangle ABC$ having sides 8 cm, 10 cm, 12 cm as shown in the figure. Find AD, BE and CF



- A circle is touching the side BC of a triangle ABC at P and AB and AC produced at Q and R respectively. Prove that $AQ = AR = \frac{1}{2}$ perimeter of triangle ABC
- In the isosceles $\triangle ABC$, $AB = AC$, show that $BE = EC$

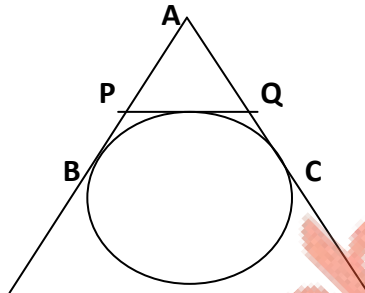


- In the figure, PA and PB are tangents from P to the circle with centre O. LN touches the circle at M. Then show that $PL + LM = PN + NM$



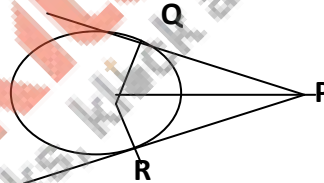
- The tangent at any point of a circle is perpendicular to the radius through point of contact. Prove it
- Two concentric circles are of radii 7 cm and r cm, where $r > 7$. A chord of the larger circle, of length 48 cm touches the smaller circle. Find the value of r (25 cm)
- In figure a triangle ABC is drawn to circumscribe a circle of radius 2 cm such that the tangents BD and DC into which BC is divided by the point of contact D are the lengths 4 cm and 3 cm. If area of $\triangle ABC = 21 \text{ cm}^2$, then find the lengths of sides AB and AC (7.5 cm, 6.5 cm)
- Prove that the lengths of the tangents drawn from an external point to a circle are equal
- Two tangents PA and PB are drawn to the circle with centre o such that $\angle APB = 120^\circ$. Prove that $OP = 2 AP$
- Two concentric circles are of radii 13 cm and 5 cm. Find the length of the chord of the larger circle Which touches the smaller circle (24 cm)
- Prove that the intercept of a tangent between a pair of parallel tangents to a circle subtend a right Angle at the centre of the circle

15. PQ is a chord of length 16 cm of a circle of radius 10 cm . The tangent at P and Q intersect at T. Find the length of PT
16. Prove that opposite sides of a quadrilateral circumscribing a circle subtend supplementary angles at the centre of the circle
17. Point P is 26 cm away from the centre O of a circle and the length of the tangent drawn from P to the circle is 24 cm. Then the radius of the circle is
 a) 25 cm b) 26 cm c) 24 cm d) 10 cm
18. If two tangents inclined at an angle of 60° are drawn to a circle of radius 3 cm, then the length of each tangent is equal to
 a) $\frac{3\sqrt{3}}{2}$ cm b) $2\sqrt{3}$ cm c) $3\sqrt{3}$ cm d) 6 cm
19. In fig AB, AC and PQ are tangents, If AB = 5 cm, then perimeter of $\triangle APQ$ is



20. In figure PQ and PR are tangents to a circle with centre A. If $\angle QPA = 27^\circ$, then $\angle QAR$ equals

- a) 63° c) 126°
 b) 153° d) 117°



21. The length of the tangent drawn from a point 8 cm away from the centre of a circle of radius 6 cm is
 a) $\sqrt{7}$ cm b) $2\sqrt{7}$ cm c) 10 cm d) 5 cm
22. TP, TQ are two tangents to a circle with centre O. so that $m\angle POQ = 100^\circ$ then $m\angle PTQ$ is equal to
 a) 60° b) 70° c) 80° d) 90°
23. Two circles are intersecting externally at a point, then the number of common tangents drawn are
 a) 2 b) 3 c) 4 d) no common tangent
24. A parallelogram circumscribing a circle is a
 a) square b) rectangle c) rhombus d) trapezium
25. In the figure PA and PB are tangents to the circle with centre O. If $\angle APB = 60^\circ$, then $\angle OAB$ is
 a) 30° b) 60° c) 90° d) 15°

