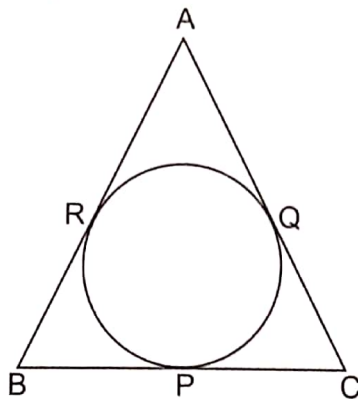
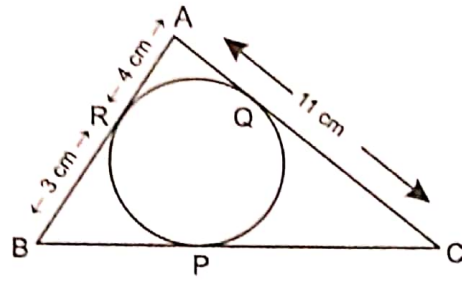


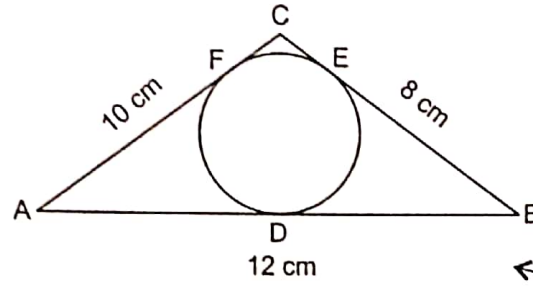
1. From a point Q, the length of the tangent to a circle is 24 cm and the distance of Q from the centre is 25 cm. Find the radius of the circle.
2. Prove that the tangents at the extremities of a chord of a circle make equal angles with the chord.
3. In the given figure, a circle inscribed in $\triangle ABC$, touches its sides BC, CA and AB at the points P, Q and R respectively. If $AB = AC$, then prove that $BP = CP$.



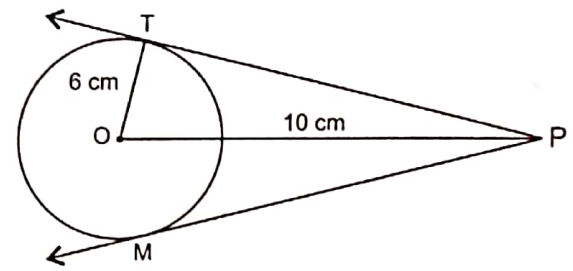
4. In the given figure, ΔABC is circumscribing a circle. Find the length of BC.



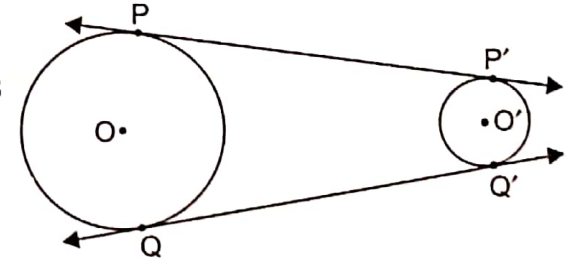
5. A circle is inscribed in a ΔABC having sides 8 cm, 10 cm and 12 cm as shown in the following figure. Find AD, BE and CF.



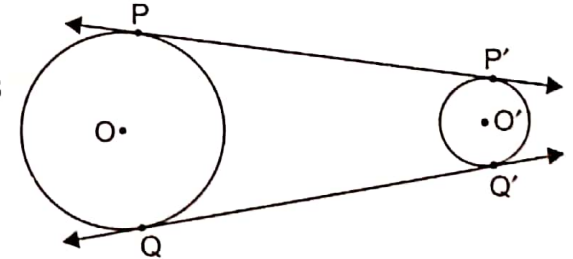
6. In the given figure, PT and PM are two tangents to the circle with centre O. If $OT = 6$ cm and $OP = 10$ cm, then find the length of PT and PM.



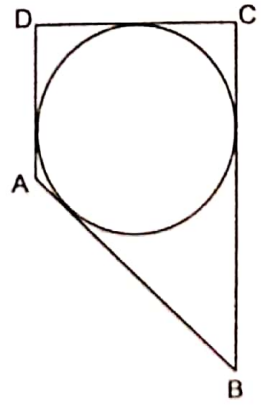
7. PA and PB are tangents from P to the circle with centre O. At point M, a tangent is drawn cutting PA at K and PB at N. Prove that $KN = AK + BN$.



8. In the given figure, PP' and QQ' are the two common tangents of the two circles of unequal radii. Show that $PP' = QQ'$.

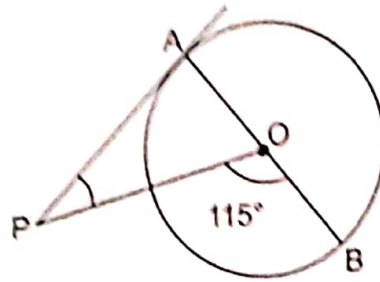


9. In the given figure, a circle touches all the four sides of a quadrilateral ABCD whose three sides are $AB = 6$ cm, $BC = 7$ cm and $CD = 4$ cm. Find the length of AD.

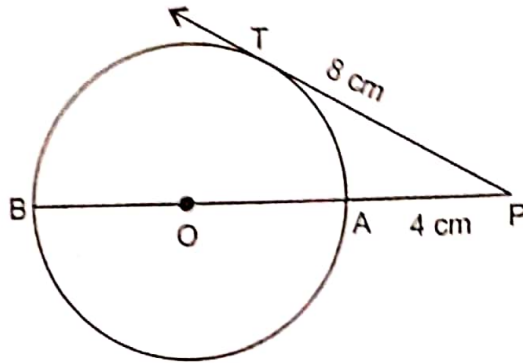


10. In two concentric circles, a chord of length 24 cm of larger circle becomes a tangent to the smaller circle whose radius is 5 cm. Find the radius of the larger circle.

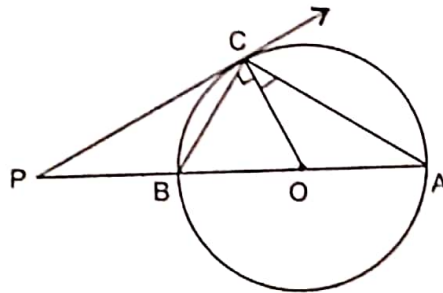
11. In the given figure, PA is a tangent from an external point P to a circle with centre O. If $\angle POB = 115^\circ$, then find $\angle APO$.



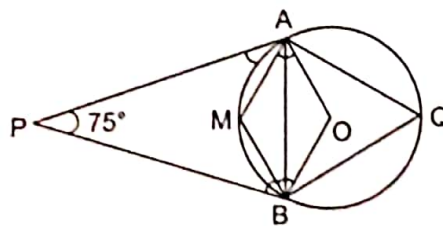
12. In the given figure, O is the centre of the circle, PT is the tangent and PAB is the secant passes through the centre O. If $PT = 8$ cm and $PA = 4$ cm, then find the length of the radius.



13. PC is a tangent to the circle at C. AOB is the diameter which when extended meets the tangent at P. Find $\angle CBA$, $\angle AOC$ and $\angle BCO$, if $\angle PCA = 110^\circ$.



14. In the given figure, O is the centre of the circle. Determine $\angle AQB$ and $\angle AMB$, if PA and PB are tangents and $\angle APB = 75^\circ$.



15. In the given figure, $AD = 8$ cm, $AC = 6$ cm and TB is the tangent at B to the circle with centre O. Find OT, if BT is 4 cm.

