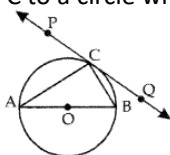


CIRCLES

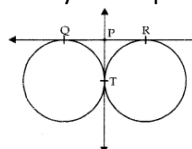
EXTRA QUESTION

X

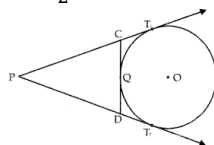
- From an external point P, tangents PA and PB are drawn to a circle with centre O. If $\angle PAB = 50^\circ$, then find $\angle AOB$.
- In figure, PQ is a tangent at a point C to a circle with centre O. If AB is a diameter and $\angle CAB = 30^\circ$, find $\angle PCA$.



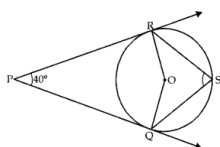
- In fig., QR is a common tangent to the given circles, touching externally at the point T. The tangent at T meet QR at P. If $PT = 3.8$ cm, find the length of QR.



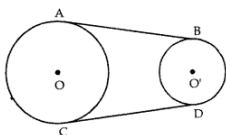
- In fig., PT_1 and PT_2 are tangents to the circle drawn from an external point P. CD is a third tangent touching circle at Q. If $PT_2 = 12$ cm and $CQ = 2$ cm. What is the length of PC?



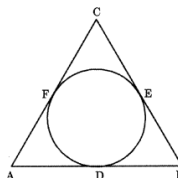
- Two tangents are drawn to a circle from an external point P, touching the circle at the points A and B and a third tangent intersects segment PA in C and segment PB in D and touches the circle at Q. If $PA = 20$ units, then find the perimeter of $\triangle PCD$.
- In fig., PQ and PR are tangents drawn from P. If $\angle QPR = 40^\circ$, then find $\angle QSR$.



- In the figure, AB and CD are common tangents to two circles of unequal radii. Prove that $AB = CD$.



- In figure, a circle is inscribed in a $\triangle ABC$, such that it touches the sides AB, BC and CA at points D, E and F respectively. If the lengths of sides AB, BC and CA are 12 cm, 8 cm and 10 cm respectively, find the lengths of AD, BE and CF.



- ABC is a right triangle, right angled at B. A circle is inscribed in it. The lengths of the two sides containing the right angle are 6 cm and 8 cm. Find the radius of the incircle.
- If from an external point P of a circle with centre O two tangents PQ and PR are drawn such that $\angle QPR = 120^\circ$. Prove that $2PQ = PO$.