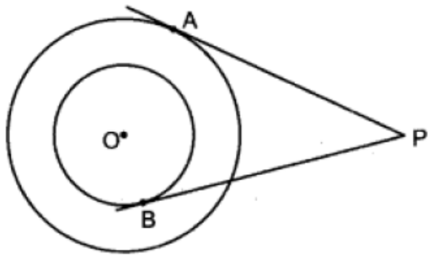
Chapter- Circles

Q1.

In figure, there are two concentric circles, with centre O and of radii 5 cm and 3 cm. From an external point P, tangents PA and PB are drawn to these circles. If AP = 12 cm, find the length of BP.

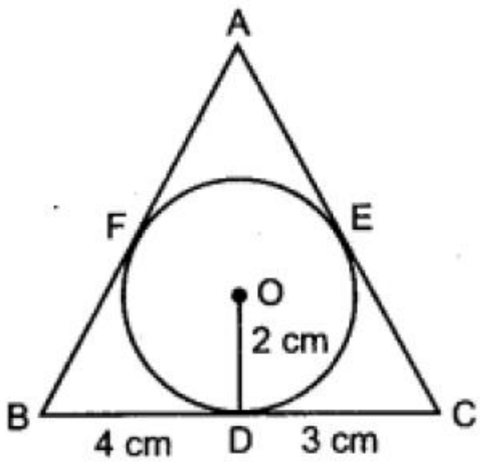


Q2.

Prove that opposite sides of a quadrilateral circumscribing a circle subtend supplementary angles at the centre of the circle.

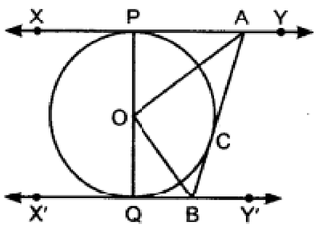
Q3.

In figure, a triangle ABC is drawn to circumscribe a circle of radius 2 cm such that the segments BD and DC into which BC is divided by the point of contact D are the lengths 4 cm and 3 cm respectively. If area of $\Delta ABC = 21\ cm^2$, then find the lengths of sides AB and AC.



Q4.

In figure, XY and X'Y' are two parallel tangents to a circle with centre O and another tangent AB with point of contact C intersects XY at A and X'Y' at B. Prove that ∠AOB = 90°.



Q5.

8.In a right angle ΔABC, $BC = 12$ cm and $AB = 5$ cm.
Find the radius of the circle inscribed in this triangle.

Q6.

In figure 2, PQ is a chord of a circle with centre O and PT is a tangent. If $\angle QPT = 60°$, find $\angle PRQ$.

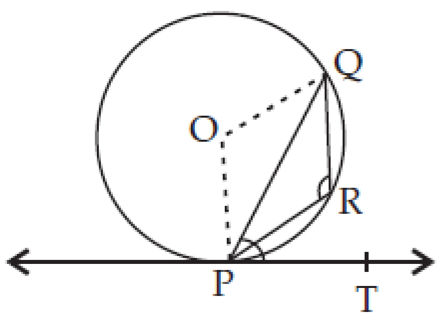
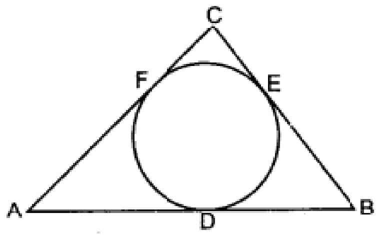


Figure 2

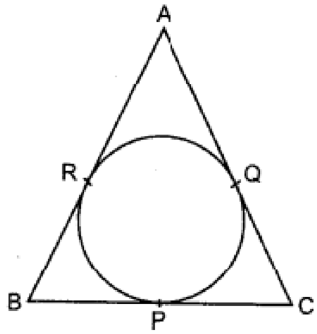
Q7.

In the given figure, a circle inscribed in ΔABC touches its sides AB, BC and AC at points D, E and F respectively. If AB = 12 cm, BC = 8 cm and AC = 10 cm, then find the lengths of AD, BE and CF



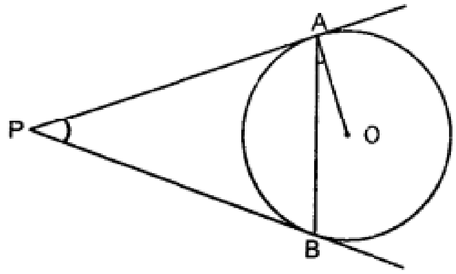
Q8.

In the given figure, a circle inscribed in ΔABC, touches its sides BC, CA and AB at the points P, Q and R respectively. If AB = AC, then prove that BP = CP.



Q9.

In the given figure, two tangents PA and PB are drawn to a circle with centre O from an external point P. Prove that ∠APB = 2 ∠OAB



Q10:

In Fig. , tangents PQ and PR are drawn from an external point P to a circle with centre O, such that $\angle RPQ = 30°$. A chord RS is drawn parallel to the tangent PQ. Find $\angle RQS$.

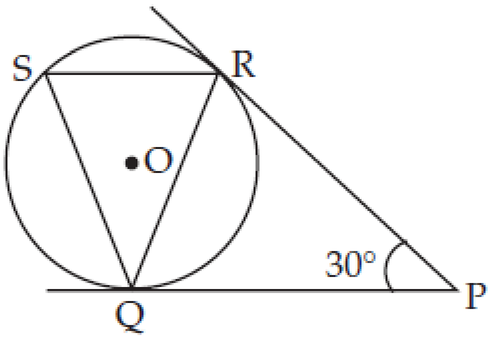


Figure .