

Maths Work Sheet

Class - X

Chapter:- Circles

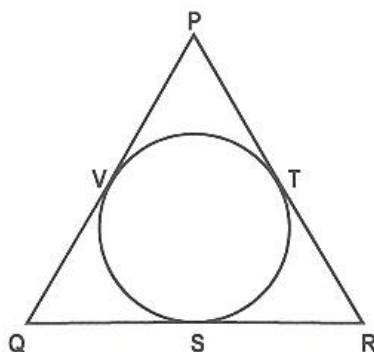
Q01 : The length of a tangent from a point P at a distance 5 cm from the centre of the circle is 4 cm. Find the radius of the circle.

Q02 : Prove that, in two concentric circles, the chord of the larger circle which touches the smaller circle, is bisected at the point of contact.

Q03 : 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 of contact at the centre.

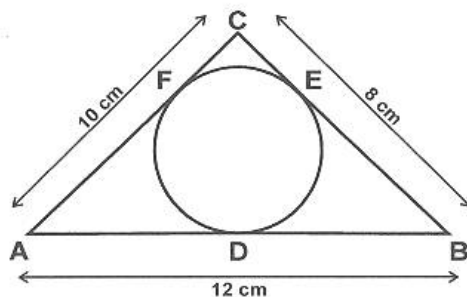
Q04 : A circle touches all the four sides of a quadrilateral ABCD whose side AB = 6 cm, BC = 7 cm and CD = 4 cm. Find AD.

Q05 : In the given fig., if PQ = PR, prove that QS = RS.

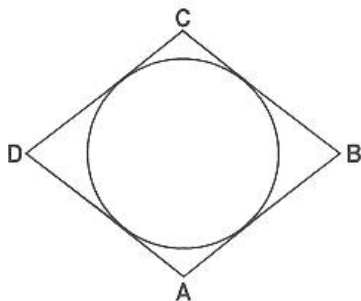


Q06 : Two circles touch externally at a point P and from a point T on the common tangent at P, tangent segment TQ and TR are drawn to the two circles. Prove that TQ = TR.

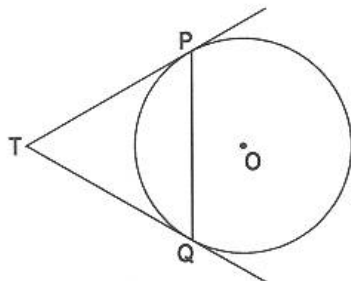
Q07 : A circle is inscribed in $\triangle ABC$ having sides 8 cm, 10 cm and 12 cm as shown in fig. Find AD, BE and CF.



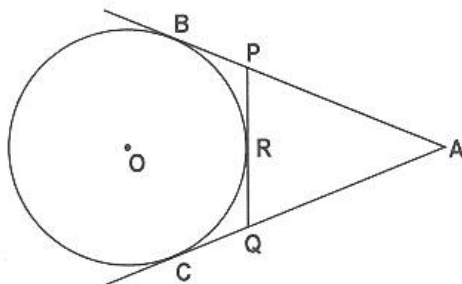
Q08 : In the fig., a circle touches all the four sides of a quadrilateral ABCD whose sides $AB = 8$ cm, $BC = 9$ cm and $CD = 6$ cm. Find AD.



Q09 : PQ is a chord of length 8 cm of a circle of radius 5 cm. The tangents at P and Q intersect at a point T. Find the length TP.

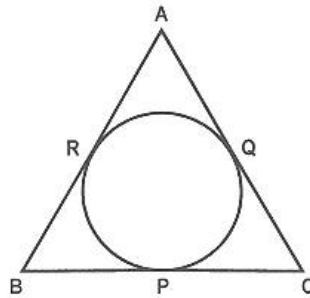


Q10 : The length of tangents drawn from an external point to circle are equal. Prove it. Use the result to solve the following: In the fig., AB and AC are two tangents to a circle with centre O from a point A outside the circle. Prove that PRQ is a tangent to circle at R. $AP + PR = AQ + QR$.

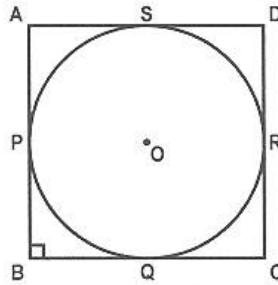


Q11 : Prove that the lengths of tangents drawn from an external point to a circle are equal. Using the above, prove the following: ABC is an isosceles triangle in which $AB = AC$, circumscribed about a circle, as shown in the fig. Prove that the base is bisected by the point of contact.

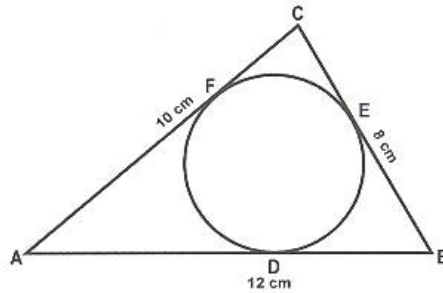
Fig.:-



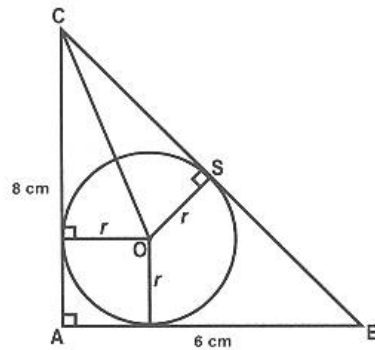
Q12 :} In the fig., a circle is inscribed in a quadrilateral ABCD in which $\angle B = 90^\circ$. If $AD = 23$ cm, $AB = 29$ cm and $DS = 5$ cm, find the radius (r) of the circle.



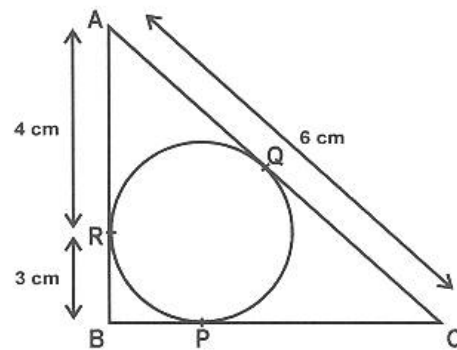
Q13 :} A circle is inscribed in a $\triangle ABC$ having sides 8 cm, 10 cm and 12 cm as shown in fig. Find AD , BE and CF .



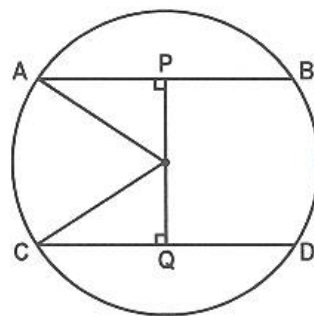
Q14 :} In the given fig., ABC is a right-angled triangle, right angled at A, with $AB = 6$ cm and $AC = 8$ cm. A circle with centre O has been inscribed inside the triangle. Calculate the value of r , the radius of the inscribed circle.



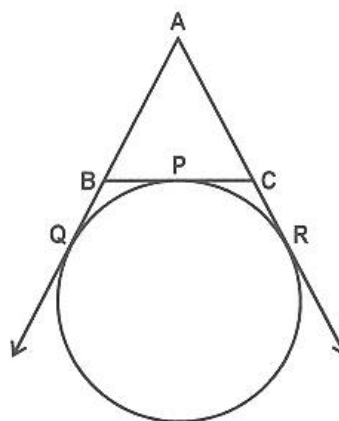
Q15 :} In fig., $\triangle ABC$ is circumscribing a circle. Find the length of BC.



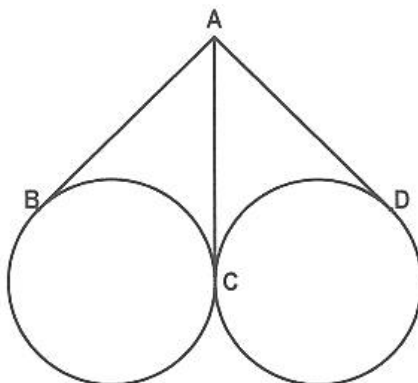
Q16 :} In the fig., O is the centre of the circle with radius 5 cm, $AB \parallel CD$, $AB = 6$ cm. Find OP.



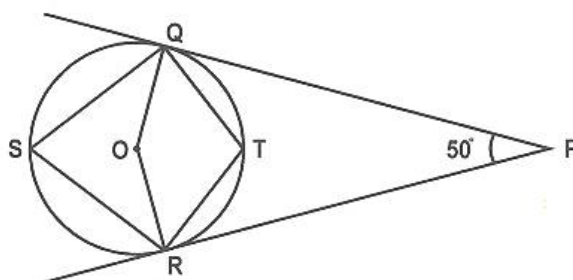
Q17 :} In fig., a circle touches the side BC of $\triangle ABC$ at P and touches AB and AC produced at Q and R respectively. If $AQ = 5$ cm, find the perimeter of $\triangle ABC$.



Q18 : In the given fig., AB, AC and AD are tangents from the exterior point A to the circle which touches externally at C. If AB = 5 cm, find AD.



Q19 : In the fig. given below, find $\angle QSR$.



Q20 : $\triangle ABC$ is a right-angled at A. A circle is inscribed in it. The lengths of two sides containing the right angle are 12 cm and 5 cm. Find the radius of the incircle.

Q21 : Prove that the intercept of a tangent between two parallel tangents to a circle subtends a right angle at the centre.

Q22 : Two tangents PA and PB are drawn to the circle with centre O, such that $\angle APB = 120^\circ$. Prove that $OP = 2AP$.

Prepared By:-

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