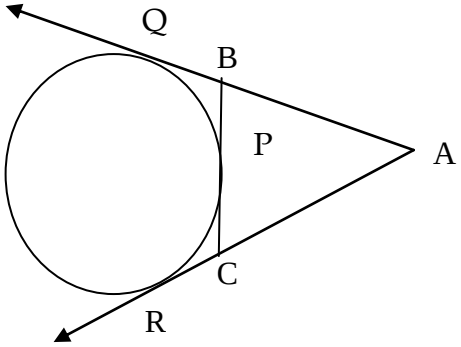
OUR OWN HIGH SCHOOL, AL WARQA'A, DUBAI

GRADE: X - CIRCLES

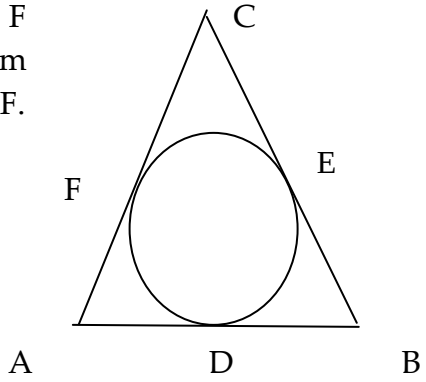
ASSIGNMENT: 1

1. A circle touching the side BC

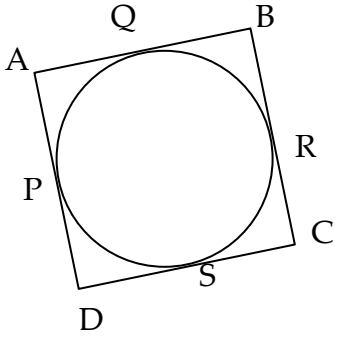
   of Δ ABC at P and touching AB and AC produced at Q and R respectively.
   Prove that:
   AQ = ½ (Perimeter of Δ ABC)



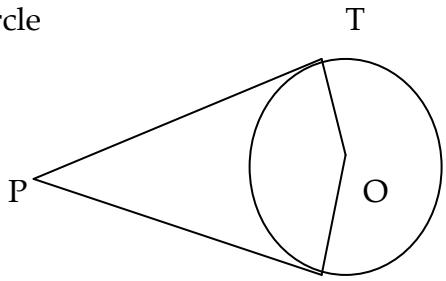
2. A circle is inscribed in a Δ ABC touches the sides AB, BC, CA at points D, E, F respectively. If AB =12 cm, BC = 8 cm and CA = 10 cm, find AD, BE and CF.



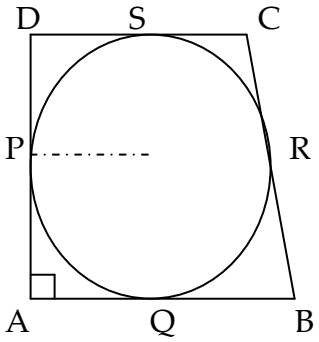
3. In the given figure, quadrilateral ABCD is circumscribed, touching the circle at P, Q, R and S. If AP = 5 cm, BC = 7 cm and CS = 3 cm, then find AB.



4. If PT and PQ are two tangents to a circle with centre O so that $\angle TOQ = 110^0$. Find $\angle TPO$.

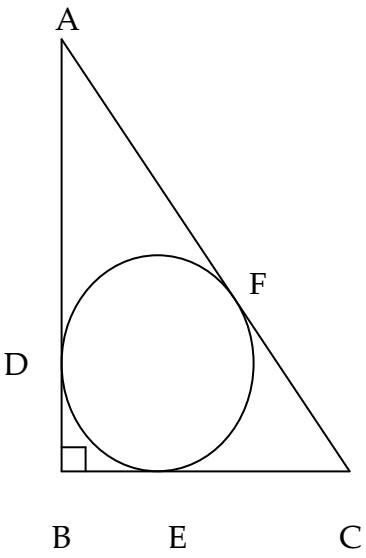


5. In the figure, quad. ABCD is circumscribed, touching the circle at P, Q and S such that $\angle DAB = 90^0$. If CS = 27 cm and CB = 38 cm and the radius of the circle is 10 cm, find AB.

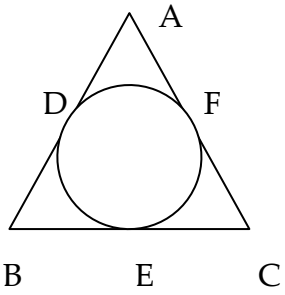


ASSIGNMENT: 2

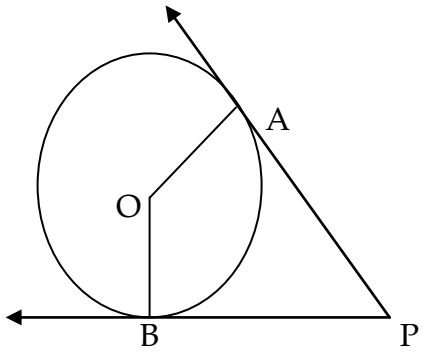
1. ABC is a right triangle, right angled at B. A circle is inscribed in it. The lengths of the two sides containing the right angle are 6 cm and 8 cm. Find the radius of the incircle.



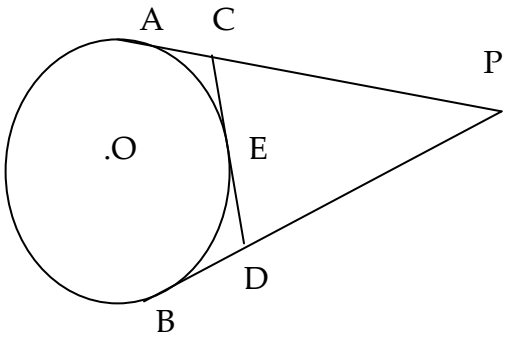
2. In the adjoining figure, if AB = AC, prove that BE = EC.



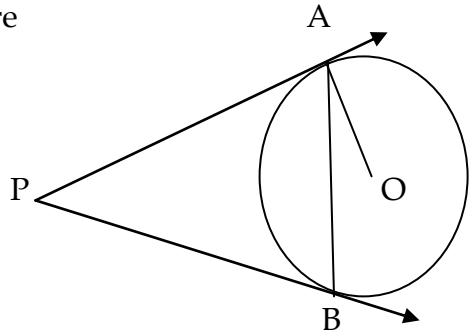
3. O is the centre of a circle,
   PA and PB are tangent segments.
   Show that the points O, A, P and B
   are concyclic.



4. From an external point P,
   tangents PA and PB are drawn
   to a circle with centre O.
   If CD is a tangent to the
   circle at E as shown in the figure
   and AP = 14 cm, find the
   perimeter of Δ PCD.



5. Two tangents PA and PB
   are drawn to a circle with centre
   O from an external point P.
   Prove that: $\angle APB = 2\ \angle OAB$.



6. A chord AB of a circle (O, *r*) is produced to P so that BP = 2 AB.
   Prove that: $OP^2 = OA^2 + 6\ AB^2$.

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Mathematics Department.