

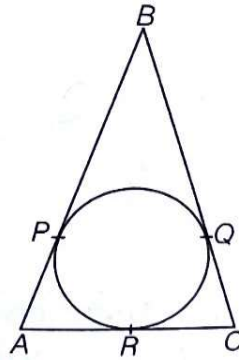
INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2023-24

CLASS: X SUBJECT: MATHEMATICS DATE: 18-10-2023

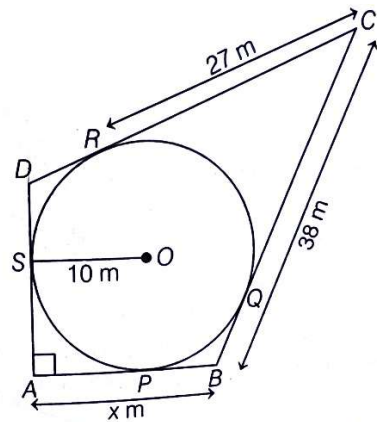
LESSON:10 – CIRCLES

1. Two concentric circles of radii 10cm and 8cm, then the length of the chord of larger circle which touches the smaller circle is ---- (Ans: 12 cm)
2. In the given figure, $AB = BC = 10$ cm. If $AC = 7$, then the length of BP is ----

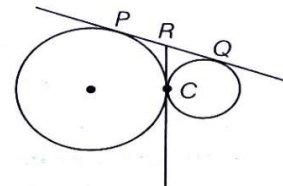


(Ans: 6.5 cm)

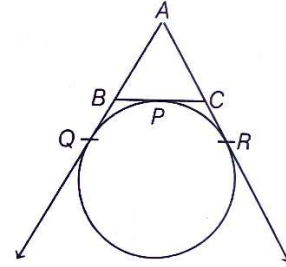
3. In the figure quadrilateral ABCD is circumscribing a circle with centre O and $AD \perp AB$. If radius of incircle is 10 cm, then the value of x is (Ans: 21cm)



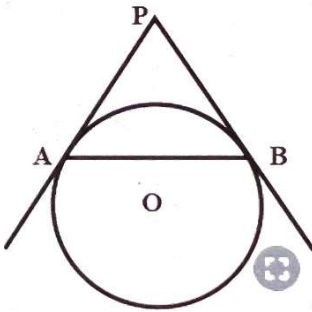
4. In the given figure, two circles touch each other at a point C. Prove that the common tangent to the circles at C, bisects the common tangent at P and Q.



5. A circle touches the side BC of a ΔABC at P and AB and AC when produced at Q and R respectively as shown in the figure. Show that $AQ = \frac{1}{2}$ (Perimeter of ΔABC) or show that $AQ = \frac{1}{2} (BC + CA + AB)$

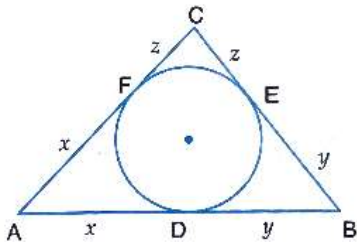


6. If PA and PB are tangents from an outside point P, such that $PA = 10\text{cm}$ and $\angle APB = 60^\circ$. Find the length of the chord AB. (Ans: 10cm)
7. In the figure, AP and BP are the tangents to a circle with centre O, such that $AP = 5\text{cm}$ and $\angle APB = 60^\circ$. Find the length of the chord AB.

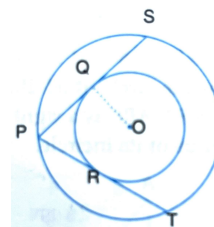


(Ans: 5cm)

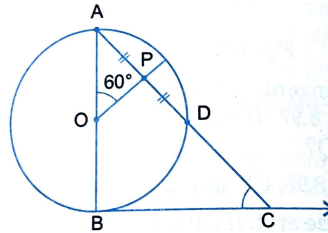
8. A circle is inscribed in a ΔABC having sides 8cm , 10cm and 12cm as shown in the figure. Find AD, BE, CF. (Ans: 7cm , 5cm , 3cm)



9. In the figure there are two concentric circles with centre O. PRT and PQS are tangents to the inner circle from a point P lying on the outer circle. $PR = 5\text{cm}$, find the length of PS? (Ans: 10cm)



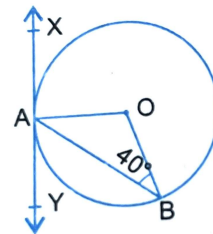
10. In the figure AB is diameter of a circle centres at O. BC is a tangent to the circle at B. If OP bisects the chord AD and $\angle AOP = 60^\circ$. then find $m\angle C$.



(Ans: 60°)

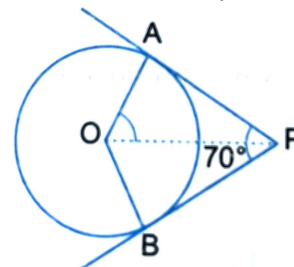
11. In the figure XAY is the tangent to the circle centered at O. If $\angle ABO = 40^\circ$, then find $m\angle BAY$ and $m\angle AOB$

(Ans: $50^\circ, 100^\circ$)



12. In the figure, if tangents PA and PB drawn from a point to a circle with centre O, are inclined to each other at an angle of 70° , then find the measure of $\angle POA$

(Ans: 55°)



Level 2

13. If from an external point B of circle with centre O, two tangents BC and BD are drawn such that $\angle BAC = 120^\circ$, prove that $BO = 2BC$

14. Two circles with centres A and B of radii 3cm and 4cm respectively intersect at two points C and D such that AC and BC are tangents to the two circles. Find the length of the common chord CD

(Ans: 4.8cm)

15. A is a point at a distance 13 cm from the centre O of a circle of radius 5cm. AP and AQ are the tangents to the circle at P and Q. If the tangent BC is drawn at a point R lying on the minor arc PQ to intersect AP at B and AQ at C then find the perimeter of $\triangle ABC$.

(Ans: 24cm)
