



# DELHI PUBLIC SCHOOL FIROZABAD

(UNDER THE AEGIS OF DELHI PUBLIC SCHOOL SOCIETY EAST OF KAILASH NEW DELHI)

(A SENIOR SECONDARY SCHOOL)

AFFILIATED TO CBSE, AFFILIATION NO. 2133064 SCHOOL NO: 61225

REVISION SECOND TERM - 2021-22



Class: 10

Name \_\_\_\_\_

Roll No. \_\_\_\_\_

Subject: MATHS

Topic – Circles

DATE: 14.01.22

1. Tangents PA and PB are drawn from an external point P to two concentric circles with centre O and radii 8 cm and 5 cm respectively. if  $AP = 15$  cm then find the length of BP. ( 2012 )  
( 16.25 cm )
2. Two concentric circles are of radii 7 cm and  $r$  cm where  $r > 7$ . a chord of the larger circle of length 46 cm touches the smaller circle. Find the value of  $r$ .
3. Two tangents TP and TQ are drawn to a circle with centre O from an External point T. prove that  $\angle PTQ = 2 \angle OPQ$ .
4. The incircle of triangle ABC touches the sides BC, CA and AB at P, Q and R. Prove that  $(AR + BP + CQ) = (AQ + BR + CP) = \frac{1}{2}$  (perimeter of triangle ABC. )
  1. Using the above result solve: a circle is inscribed in a triangle PQR. If  $PQ = 10$  cm,  $QR = 8$  cm and  $PR = 12$  cm, find the lengths of QM, RN and PL. (3, 5, 7).
  2. If  $AB = 10$  cm,  $AQ = 7$  cm and  $CQ = 5$  cm, then find the length of BC. (8 cm).
5. PQ is a chord of length 4.8 cm of a circle of radius 3 cm. the tangents at P and Q intersect at a point T. find the length of TP. ( 4 cm )
6. The incircle of an isosceles triangle ABC, with  $AB = AC$ , touches the sides AB, BC, CA at D, E and F. prove that E bisects BC.
7. If PA and PB are tangents to the circle from an external point P. CD is another tangent touching the circle at Q. If  $PA = 12$  cm,  $QC = QD = 3$  cm, then find  $PC + PD$ . ( 18 cm ) ( 2017 )
8. Two concentric circles are of diameters 30 cm and 18 cm. find the length of the chord of the larger circle which touches the smaller circle. ( CBSE 2014 ) ( 24 cm )
9. The length of three consecutive sides of a quadrilateral circumscribing a circle are 4 cm, 5 cm and 7 cm. find the length of the fourth side. ( 6 cm )
10. From an external point P, tangents  $PA = PB$  are drawn to a circle with centre O. If  $\angle PAB = 50^\circ$ , then find  $\angle AOB$ . ( $100^\circ$ ) ( CBSE – 2016 )
11. If PA and PB are tangents from an external point P to a circle with centre O. LN touches the circle at M. prove that  $PL + LM = PN + MN$ . ( CBSE – 2010 )
12. Find the length of tangent drawn to a circle with radius 5 cm, from a point 13 cm from the centre of the circle.
13. If O is the centre of a circle of radius 5 cm. T is a point such that  $OT = 13$  cm and OT intersects the circle at E. if AB is the tangent to the circle at E, find the length of AB. ( 2016 )  
(  $\frac{20}{3}$  )
14. 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. ( CBSE 2014 , 2016, 2019 ) NCERT. (  $\frac{20}{3}$  )
15. Two tangents TP and TQ are drawn to a circle with centre O from an external point T. prove that  $\angle PTQ = 2 \angle OPQ$ .