**ASSIGNMENT (2020-21)**

**CLASS - X SUBJECT – MATHEMATICS**

**CH- 10 (CIRCLES)**

1. In the given figure, PT is a tangent to the circle and O is its centre. Find OP.

(a) 16 cm  (b) 15 cm (c) 18 cm  (d) 17 cm

1. In the figure, Ab is a chord of length 16 cm, of a circle of radius 10 cm. The tangents at A and B intersect at a point P. Find the length of PA.



       (a)        (b)        (c)      (d) 

1. In the given figure, PA and PB are tangents from P to a circle with centre O. If ∠AOB = 130°, then find ∠APB.

   (a) 40°        (b) 55°        (c) 50°        (d) 60°

1. In the given figure, PT is a tangent to a circle whose centre is O. If PT = 12 cm and PO = 13 cm then find teh radius of the circle.

       (a) 5 cm        (b) 4 cm        (c) 6 cm        (d) 4.5 cm

1. In the figure, if Ab = AC, prove that BE = CE.



1. 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 of TP.



1. In the figure, CP and CQ are tangents to a circle with centre O. ARB is another tangent touching the circle at R. If QC = 11 cm, BC = 7 cm then find, teh length of BR.



1. The two tangents from an external point P to a circle with centre O are PA and PB. If ∠APB = 70°, then what is the value of ∠AOB?
2. A circle is touching the side BC of a $∆$ABC at P and touchign AB and AC produced at Q and R.      Prove that:  
3. In the following figure, OP is equal to diameter of the circle. Prove that ABP is an equilateral triangle.



1. Prove that the tangents drawn at the ends of a chord of a cricle make equal angles with the chord.
2. In the figure, two circles with centres A and B and radii 5 cm and 3 cm touching each other internally. If the perpendicular bisector of segment AB, meets the bigger circle at P and Q, find the length of PQ.



1. In the following figure, two circle touch each other externally at C. Prove that the common tangent at C bisects the other two common tangents.



1. In the figure, $∆$ABC is circumscribing a circle. Find the length of BC.



1. In the figure, PA is a tangent from an external point P to a circle with centre O. If ∠POB = 115° then find ∠APO.

