Standard – 10ᵗʰ   **WORKSHEET**   **Subject – Maths**

CHAPTER – 10 - CIRCLE

1. Two tangents PA and PB are drawn from an external point P to a circle with centre o. Prove that AOBP is a cyclic quadrilateral
2. Prove that the parallelogram circumscribing a circle is a rhombus
3. Two tangents PQ and PR are drawn to a circle with centre o from an external point P. `prove that Angle QPR = 2 angle OQR
4. If circle is inscribed in a ΔABC having sides 8 cm ,10 cm, 12 cm as shown in the figure. Find AD, BE and CF
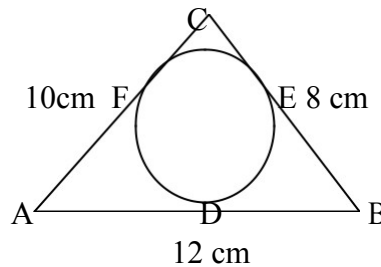
5. A circle is touching the side BC of a triangle ABC at P and AB and AC produced at Q and R respectively Prove that AQ = AR = ½ perimeter of triangle ABC
6. in the isosceles ΔABC, AB = AC, show that BE = EC
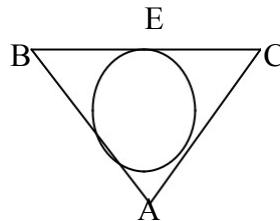
7. In the figure, PA and PB are tangents from P to the circle with centre O. LN touches the circle at M, Then show that PL + LM = PN+ NM
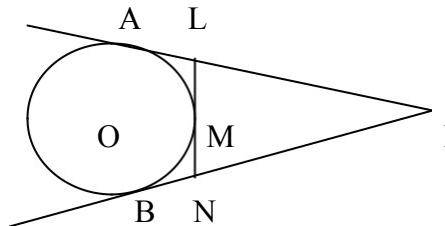
8. The tangent at any point of a circle is perpendicular to the radius through point of contact. Prove it
9. Two concentric circles are of radii 7 cm and r cm, where r > 7. A chord of the larger circle, of length 48 cm touches the smaller circle. Find the value of r   (25 cm)
10. In figure a triangle ABC is drawn to circumscribe a circle of radius 2 cm such that the tangents BD And DC into which BC is divided by the point of contact Dare the lengths 4 cm and 3 cm. If area of ΔABC = 21 cm², then find the lengths of sides AB and AC   (7.5 cm, 6.5 cm)
11. Prove that the lengths of the tangents drawn from an external point to a circle are equal
12. Two tangents PA and PB are drawn to the circle with centre o such that ∟APB = 120°. Prove that OP=2AP
13. Two concentric circles are of radii 13 cm and 5 cm. Find the length of the chord of the larger circle Which touches the smaller circle   (24 cm)

14. Prove that the intercept of a tangent between a pair of parallel tangents to a circle subtend a right Angle at the centre of the circle.
15. PQ is a chord of length 16 cm of a circle of radius 10 cm . The tangent at P and Q intersect at T. Find the length of PT
16. Prove that opposite sides of a quadrilateral circumscribing a circle subtend supplementary angles at the centre of the circle
17. Point P is26 cm away from the centre o of a circle and the lengths PT of the tangent drawn from P to Circle is 24 cm. Then the radius of the circle is

    a)25 cm   b) 26 cm   c) 24 cm   d) 10 cm

18. If two tangents inclined at an angle of 60^0 are drawn to a circle of radius 3 cm, then the length of each Tangent is equal to

    a) $\dfrac{3\sqrt{3}}{2}$ cm   b) $2\sqrt{3}$ cm   c) $3\sqrt{3}$ cm   d) 6 cm

19. In fig AB, AC and PQ are tangents, If AB = 5 cm, then perimeter of $\triangle$APQ is
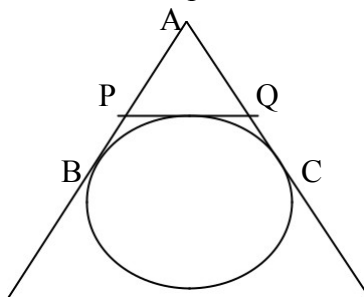
20. In figure PQ and PR are tangents to a circle with centre A. If ι QPA = 27^0 , then ι QAR equals

    a) 63^0 c)126^0
    b) 153^0 d)117^0
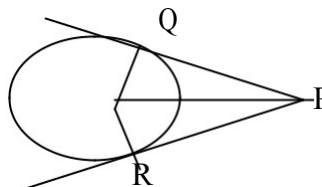
21. The length of the tangent drawn from a point 8 cm away from the centre of a circle of radius 6 cm is

    a)√7 cm   b) 2 √7 cm   c) 10 cm   d) 5 cm

22. TP, TQ are two tangents to a circle with centre o. so that m < POQ = 100^0 then m < PTQ is equal to

    a) 60^0 b) 70^0 c) 80^0 d) 90^0

23.Two circles are intersecting externally at a point , then the number of common tangents drawn are

    a)2   b) 3   c) 4   d) no common tangent

24.A parallelogram circumscribing a circle is a

    a) square   b) rectangle   c) rhombus   d) trapezium

25. I n the figure PA and PB are tangents to the circle with centre o. If < APB = 60^0, then <OAB is

    a) 30^0 b) 60^0 c) 90^0 d) 15^0