CBSE 10th Circles Unsolved Paper

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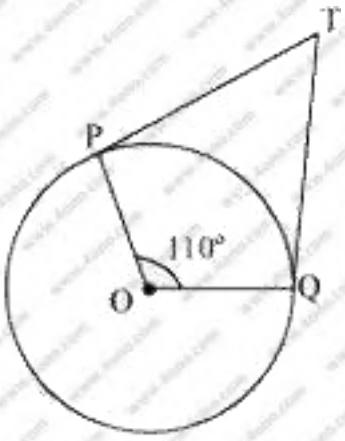
Question 1

In the given figure, if TP and TQ are the two tangents to a circle with centre O so that ∠POQ = 110 , then ∠PTQ is equal to

$(A)\ 60^0$ $(B)\ 70^0$

$(c) 80^0$ $(D) 90^0$



Question 2

Prove that the tangents drawn at the ends of a diameter of a circle are parallel

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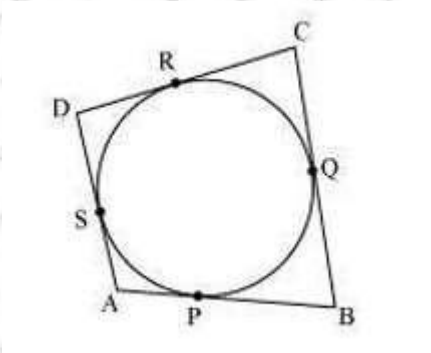
Question 3

The length of a tangent from a point A at distance 5 cm from the centre of the circle is 4 cm. Find the radius of the circle.

Question 4

A quadrilateral ABCD is drawn to circumscribe a circle (see given figure) Prove that AB + CD = AD + BC



Question 5

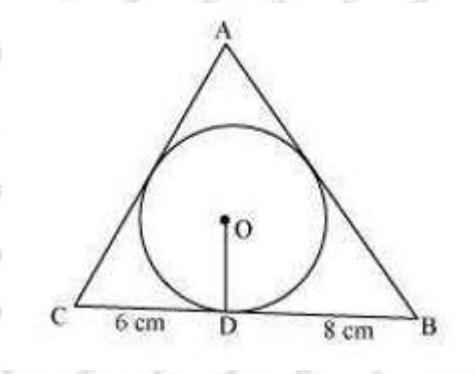
Prove that the angle between the two tangents drawn from an external point to a circle is supplementary to the angle subtended by the line-segment joining the points of contact at the centre

Question 6

Prove that the parallelogram circumscribing a circle is a rhombus.

Question 7

A triangle ABC is drawn to circumscribe a circle of radius 4 cm such that the segments BD and DC into which BC is divided by the point of contact D are of lengths 8 cm and 6 cm respectively (see given figure). Find the sides AB and AC.



Question 8

Fill in the blanks

(i) The common point of tangent and the circle is called point of contact.

(ii) A circle may have two parallel tangents.

(iii) A tangent to a circle intersects it in one point.

(iv) A line intersecting a circle in two points A called a secant.

(v) The angle between tangent at a point P on circle and radius through the point is 90°.

Question 9

If PT is a tangent at T to a circle whose center is O and OP = 17 cm, OT = 8 cm. Find the length of tangent segment PT. Sol: OT = radius = 8cm OP = 17cm PT = length of tangent = ?

Question 10

If from any point on the common chord of two intersecting circles, tangents be drawn to circles, prove that they are equal.

Question 11

If AB, AC, PQ are tangents in Fig. and AB = 5cm find the perimeter of ΔAPQ.

Question 12

If PA and PB are tangents from an outside point P. such that PA = 10 cm and ∠APB = 60°. Find the length of chord AB.

Question 13

In the fig. ABC is right triangle right angled at B such that BC = 6cm and AB = 8cm. Find the radius of its in circle.

Question 14

Two tangent segments PA and PB are drawn to a circle with center O such that ∠APB = 120°. Prove that OP = 2AP

Question 15

If ΔABC is isosceles with AB = AC and C (0, 2) is the in circle of the ΔABC touching BC at L, prove that L, bisects BC.

Question 16

In fig.. O is the center of the circle and BCD is tangent to it at C. Prove that ∠BAC + ∠ACD = 90°

Question 17

Two circles touch externally at a point P. from a point T on the tangent at P, tangents TQ and TR are drawn to the circles with points of contact Q and E respectively. Prove that TQ = TR.

Question 18

In the fig two tangents AB and AC are drawn to a circle O such that ∠BAC = 120°. Prove that OA = 2AB.

Sol:

Question 19

In figure OQ : PQ = 3 : 4 and perimeter of ΔPDQ = 60cm. determine PQ, QR and OP.

Question 20

In fig. AB is chord of length 16cm of a circle of radius 10cm. The tangents at A and B intersect at a point P. Find the length of PA. Sol: Given length of chord AB = 16cm. Radius OB = OA = 10 cm.

Question 21

In figure PA and PB are tangents from an external point P to the circle with centre O. LN touches the circle at M. Prove that PL + LM = PN + MN