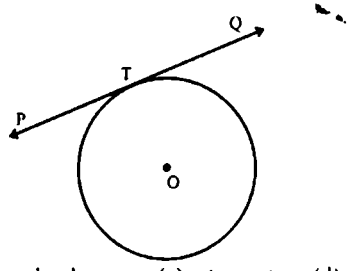
SOLVED MISCELLANEOUS EXERCISE 10

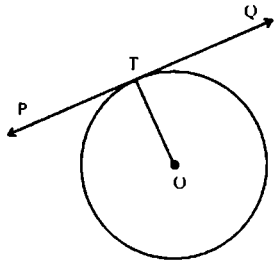
Q1. Multiple Choice Questions
Four possible answers are given for the following questions.
Tick (✓) the correct answer.

(i) In the adjacent figure of the circle, the line $\overleftrightarrow{PTQ}$ is named as



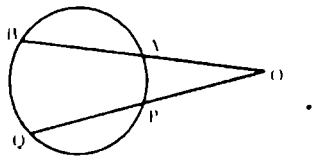
(a) an arc (b) a chord (c) a tangent (d) a secant

(ii) In a circle with centre O, if $\overline{OT}$ is the radial segment and $\overleftrightarrow{PTQ}$ is the tangent line, then



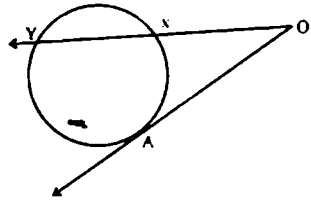
(a) $\overline{OT} \perp \overline{PQ}$ (b) $\overline{OT} \times \overline{PQ}$
(c) $\overline{OT} \parallel \overline{PQ}$ (d) $\overline{OT}$ is right bisector of $\overline{PQ}$

(iii) In the given diagram find $m\overline{OA}$ if $m\overline{OB}$ = 8cm, $m\overline{OP}$ = 4cm and $m\overline{OQ}$ = 12 cm



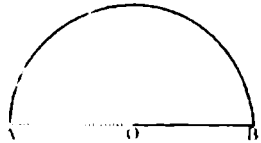
(a) 2cm (b) 2.67cm
(c) 2.8cm (d) 3cm

(iv) In the given diagram find mOX, if m $\overline{OA}$ = 6 cm and m $\overline{OY}$ = 9cm



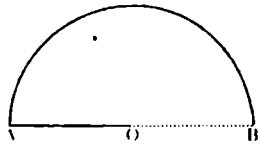
(a) 4 cm (b) 6 cm (c) 9cm (d) 12cm

(v) In the adjacent figure find semicircular area if π = 3.1416 and m $\overline{OA}$ = 20cm,



(a) 62.83Sqcm (b) 314.16sqcm (c) 436.20sqcm (d) 628.32sq cm

(vi) In the adjacent figure find half the perimeter of circle with centre O if π = 3.1416 and m $\overline{OA}$ = 20 cm.



(a) 31.42cm (b) 62.832cm (c) 125.65cm (d) 188.50 cm

(vii) A line which has two points in common with a circle is called.

(a) sine of a circle (b) cosine of a circle
(c) tangent of a circle (d) secant of a circle

(viii) A line whic4 has only one point in common with a circle is called

(a) sine of a circle (b) cosine of a circle
(c) tangent of a circle (d) secant of a circle

(ix) Two tangents drawn to a circle from a point outside it are of..... in length

(a) half (b) equal (c) double (c) triple

(x) A circle has only one

(a) secant (b) chord (c) diameter (d) centre

(xi) A tangent line intersects the circle at

(a) three points (b) two points (c) single point (d) no point at all

(xii) Tangents drawn at the ends of diameter of a circle are to each other

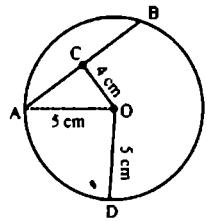
(a) parallel (b) non parallel

(c) collinear (d) perpendicular

(xiii) The distance between the centres of .two. congruent touching circles externally is

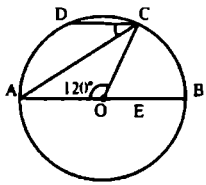
(a) of zero length
(b) the radius of each circle
(c) the diameter of each circle
(d) twice the diameter of each circle

(xiv) In the adjacent circular figure with centre O and radius 5cm. The length of the chord intercepted at 4cm away from the centre of this circle is:



(a) 4cm (b) 6cm (c) 7cm (d) 9cm

(xv) In the adjoining figure there is a circle with centre O.



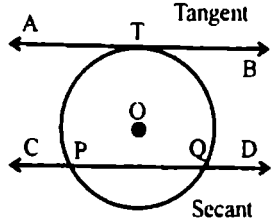
If DC || diameter AB and m∠AOC = 120°, then m∠ACD is:

(a) 406 (b) 30° (c) 50° (d) 60°

Answers:

(i)	c	(ii)	a	(iii)	b	(iv)	a	(v)	d
(vi)	b	(vii)	d	(viii)	c	(ix)	b	(x)	d
(xi)	c	(xii)	a	(xiii)	c	(xiv)	b	(xv)	b

SUMMARY



- A secant is a straight line which cuts the circumference of a circle in two distinct points. In the figure, the secant CD cuts the circle at two distinct points P and Q.
- A tangent to a circle is the straight line which touches the circumference at one point only. The point of tangency is also known as the point of contact in the figure. AB is the tangent line to the circle at the point T.
- The length of a tangent to a circle is measured from the given point to the point of contact.
- A tangent to a circle is perpendicular to the radial segment drawn to the point of contact.
- If a line is drawn perpendicular to a radial segment of a circle at its outer end point, it is tangent to the circle at that point.
- The tangent to a circle and the radial segment joining the point of contact and the centre are perpendicular to each other.
- The two tangents drawn to a circle from a point outside it, are equal in length.
- If two circles touch externally or internally, the distance between their centres is respectively equal to the sum or difference of their radii.

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