MATHEMATICS

CIRCLES

Two chords AB and CD of a circle intersect at E such that AE = 2.4 cm, BE = 32. cm and CE = 1.6 cm. The length of DE is@ 1.6 cm@ 3.2 cm@4.8 cm@6.4 cm@C

The locus of the middle points of equal chords of a circle with centre at O is@ a straight line@ a circle with centre different from O@ a circle with centre at O@ a circle intersecting the given circle at end of the chord@ D

If a regular hexagon is inscribed in a circle of radius r, then its perpendicular is @ 3r@ 6r@ 9r@12r@B<img src="17_Q.gif" >@18°@23°@41°@67°@C

Two circles of radii 20 cm and 37 cm intersect in A and B. If O₂ and O₂ are their centres and AB = 24 cm, then the distance O₁ O₂ is equal to@ 44 cm@ 51 cm@ 40.5 cm@ 45 cm@ B

AB and CD are two chords of a circle intersecting at the point P outside the circle. If PA = 12 cm, CDE = 7 cm and PC = 15 cm, then AB is equal to@ 15.5 cm@ 4 cm@ 8 cm@ 10 cm@ A

If tangents QR, PR, PQ and drawn respectively at A, B, C to the circle circumscribing an acute-angle ΔABC so as the form another △PQR, then the ∠RPQ is equal to@∠BAC@180°-∠BAC@1/2 (180° - @∠BAC)@ (180° - 2@∠BAC@@ A

Three wires of length l₁,l₂, l<sub>3<lsub> form a triangle surmounted by another circular wire, if l₃ is the diameter and l₃ = 2l₁ then the angle between l₁ and l₃ will be @ 30°@ 60°@ 45°@ 90°@B

<img src="9_Q.gif"
>@30°@45°@60°@90°@A

From a point Q, the length of the tangent to a circle is 24 cm and the distance of Q from the centre is 25 cm. The radius of the circle is@7 cm@12 cm@15 cm@ 24.5 cm@ A

<img src="11_Q.gif">@60°@ 70°@80°@90°@B

If tangents PQ and PB from a point P to a circle with centre O are inclined to each other at angle of 80°, then ∠POA is equal to@50°@60°@70°@80°@ A

<img src="13_Q.gif" >@ 30°@90°@120°@60°@ D

<img src="14_Q.gif" >@45°@70°@55°@35°@ C

The length of the tangent drawn from a point 8 cm away from the centre of a circle of radius 6 cm is@ √7cm @<img src="15_A2.gif" >@10 cm@5 cm@ B

A tangent PQ at a point P of a circle of radius 5 cm meets a line through the centre O at a point Q, so that OQ = 12 cm. Length of PQ is :@12 cm@13cm@8.5 cm@ $\sqrt{119}$ cm @D

If tangents PA and PB from a point P to a circle with centre O are inclined to each other at an angle of 80° then ∠POA is equal to@ 50°@ 60°@ 70°@ 80°@ A

Two circle touch each other externally at C and AB is a common tangent to the circle. Then ∠ACB = @ 60° @ 45° @ 30° @ 90°@ D

ABC is a right angled triangle, right angled at B such that BC = 6 am and AB = 8 cm. A circle with centre O is inscribed in $\triangle$ABC. The radius of the circle is @ 1 cm@ 2 cm@ 3 cm@ 4 cm@B

A point P is 10 cm from the centre of a circle. The length of the tangent drawn from P to the circle is 8 cm. The radius of the circle is equal to@ 4 cm@ 5 cm@ 6 cm@ None of these.@ C

A point P is 25 cm from the centre of a circle. The radius of the circle is 7 cm and length of the tangent drawn from P to the circle is x cm. The value of x =@ 20 cm@ 24 cm@ 18 cm@ 12 cm.@ B

<img src="22_Q.gif" >@ 75^o@ 85^o@ 95^o@ 105^o@ D

<img src="23_Q.gif" >@ 55^o @ 65^o@ 75^o@ 85^o@ A

<img src="24_Q.gif" >@ 8 cm@ 12cm@ 10cm @ 6cm@ B

A tangent PQ at a point P of a circle of radius 5 cm meets a line through the centre O at a point Q such that OQ = 12cm. Length PQ is@ 12 cm@ 13 cm@ 8.5 cm@$\sqrt{119}$cm@ D

From a point Q, the length of the tangent to a circle is 24 cm and the distance of Q from the centre is 25cm. The radius of the circle is@ 7 cm @ 12 cm @ 15cm@ 24.5 cm@ A

The length of the tangent from a point A at a circle, of radius 3 cm, is 4 cm. The distance of A from the centre of the circle is@$\sqrt{7}$cm @ 7 cm @ 5 cm @ 25cm@C

If tangents PA and PB from a point P to a circle with centre O are inclined to each other at an angle of 80° then ∠POA is equal to@ 50°@ 60°@ 70°@ 80°@ A

If TP and TQ are two tangents to a circle with centre O so that ∠POQ = 110^o, then, ∠PTQ is equal to@ 60°@ 70°@ 80°@ 90°@B

PQ is a tangent to a circle with centre O at the point P. If ΔOPQ is an isosceles triangle, then ∠OQP is equal to@ 30°@ 45°@ 60°@ 90°@ B

Two circle touch each other externally at C and AB is a common tangent to the circles. Then, ∠ACB = @ 60°@ 45°@ 30°@ 90°@ D

ABC is a right angled triangle, right angled at B such that BC = 6 cm and AB = 8 cm. A circle with centre O is inscribed in △ABC. The radius of the circle is@ 1 cm@ 2 cm@ 3 cm@ 4 cm@B

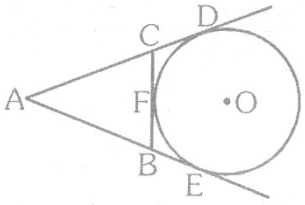
PQ is a tangent drawn from a point P to a circle with centre O and QOP is a diameter of the circle such that ∠POR = 120°, then ∠OPQ is@ 60°@ 45°@ 30°@ 90°@ C

If four sides of a quadrilateral ABCD are tangential to a circle, then@ AC + AD = BD + CD@ AB + CD = BC + AD@ AB + CD = AC + BC@ AC + AD = BC + DB@ B

The length of the tangent drawn from a point 8 cm away from the centre of a circle of radius 6 cm is @ $\sqrt{7}$cm@ $2\sqrt{7}$ cm@ 10 cm@ 5 cm@ B

AB and CD are two common tangents to circles which touch each other at C. If D lies on AB such that CD = 4 cm, then AB is equal to@ 4 cm@ 6 cm@ 8 cm@ 12 cm@ C

In the adjoining figure, if AD, AE and BC are tangents to the circle at D, E and F respectively. Then,



@ AD = AB + BC + CA@ 2AD = AB + BC + CA@ 3AD = AB + BC + CA@ 4AD = AB + BC + CA@B

38.If the diagonals of cyclic quadrilateral are equal, then the quadrilateral is @ rhombus @ square@ rectangle @ none of these@C

39.The quadrilateral formed by angle bisectors of a cyclic quadrilateral is a @ rectangle@ square@ parallelogram@ cyclic quadrilateral@ D

<img src="40_Q.gif" >@30^o@60^o@45^o@25^o@ C

<img src="41_Q.gif" >@100^o@80^o@90^o@75^o@ B

<img src="42_Q.gif" >@15 cm@10 cm@9 cm@6 cm@ C

<img src="43_Q.gif" >@8: 7@7: 8@5: 4@1: 1@ D

<img src="44_Q.gif" >@25^o@30^o@45^o@60^o@B

<img src="45_Q.gif" >@35^o@85^o@115^o@90^o@ C

<img src="46_Q.gif" >@6 cm@4 cm@2 cm@3 cm@ B

<img src="47_Q.gif" >@12cm@10 cm@9 cm@6 cm@ B

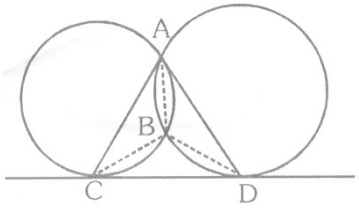
<img src="48_Q.gif" >@7/4m@11/4 cm@9/4 cm@ can’t be determined@ C

Two circles of radii 13 cm and 5 cm touch internally each other. Find the distance between their centres:@ 18 cm@ 12 cm@ 9 cm@ 8 cm@ D

Three circles touch each other externally. The distance between their centre is 5 cm. 6 cm and 7 cm. Find the radii of the circles :@ 2 cm, 3 cm, 4 cm@ 3 cm, 4 cm, 1 cm@ 1 cm, 2.5 cm, 3.5 cm@ 1 cm, 2 cm, 4 cm@ A

If AB is a chord of a circle, P and Q are two points on the circle different from A and B, then:@ the angle subtended by AB at P and Q are either equal or supplementary.@ the sum of the angles subtended by AB at P and Q is always equal two right angles.@ the angles subtended at and Q by AB are always equal.@ the sum of the angles subtended at P and Q is equal to four right angles.@ A

In the given figure, CD is a direct common tangent to two circles intersecting each other at A and B, then: ∠CAD + ∠CBD = ?



@ 120°@ 90°@ 360°@ 180°@ D

53.In a circle of radius 5 cm, AB and AC are the two chords such that AB = AC = 6 cm. Find the length of the chord BC.@ 4.8 cm@ 10.8 cm@ 9.6 cm@ none of these@ C

54.In a circle of radius 17 cm, two parallel chords are drawn on opposite sides of a diameter. The distance between the chords is 23 cm. If the length of one chord is 16 cm, then the length of the other is :@ 23 cm@ 30 cm@ 15m cm@ none of these@ B

55.If two circles are such that the centre of one lies on the circumference of the other, then the ratio of the common chord of two circles to the radius of any of the circles is :@ $\sqrt{3}:2$ @ $\sqrt{3}:1$ @ $\sqrt{5}:1$ @ none of these@ B

56.Two circles touch each other internally. Their radii are 2 cm and 3 cm. The biggest chord of the other circle which is outside the inner circle, is of length :

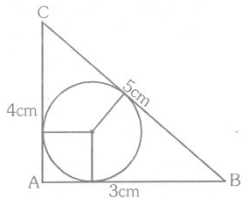
@ $2\sqrt{2}\,cm$ (B $3\sqrt{2}\,cm$ @ $2\sqrt{3}\,cm$ @ $4\sqrt{2}\,cm$ @D

57.Through any given set of four points P, Q, R, S it is possible to draw:@ atmost one circle@ exactly one circle @ exactly two circles @ exactly three circles @A

58.The distance between the centers of equal circles each of radius 3 cm is 10 cm. The length of a transverse tangent is:@ 4 cm@ 6 cm@ 8 cm@ 10 cm@C

59.The number of common tangents that can be drawn to two given circles is at the most :@ 1@ 2@ 3@ 4@ B

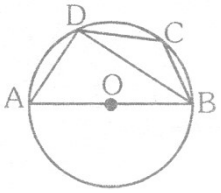
ABC is a right angled triangle AB = 3 cm,
BC = 5 cm and AC = 4 cm, then the in radius
of the circle is :



@ 1 cm@ 1.25 cm@ 1.5 cm@ none of these@ A

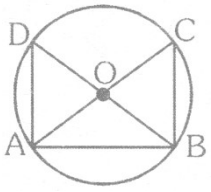
61.A circle has two parallel chords of lengths 6 cm and 8 cm. If the chords are 1 cm apart and the centre is on the same side of the chords, then a diameter of the circle is of length:@ 5 cm@ 6 cm@ 8 cm@ 10 cm@D

In the adjoining figure AB is a diameter of the
circle and ∠BCD = 130°. What is the value of ∠ABD?



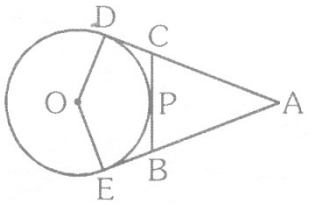
@ 30°@ 50° (C0 40°@ None of these @ C

In the given figure O is the centre of the circle and
∠BAC = 25° then the value of ∠ADB is:



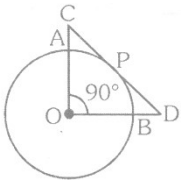
@ 40°@ 55°@ 50° @ 65°@ D

In the given circle O is the centre of the circle and AD,
AE are the two tangents. BC is also a tangent, then:



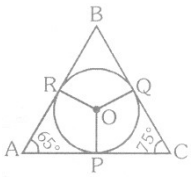
@ AC + AB = BC@ 3AE = AB + BC + AC@ AB + BC + AC = 4AE@ 2AE = AB + BC + AC@D

In a circle O is the centre and ∠COD is right angle.
AC = BD and CD is the tangent at P. What is the value
of AC + CP, if the radius of the circle is 1 metre?



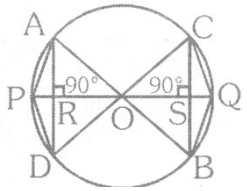
@ 105 cm@ 141.4 cm@ 138.6 cm@ Can't be determined@ B

In a triangle ABC, O is the centre of incircle
PQR, ∠BAC = 65°, ∠BCA = 75°, find ∠ROQ:



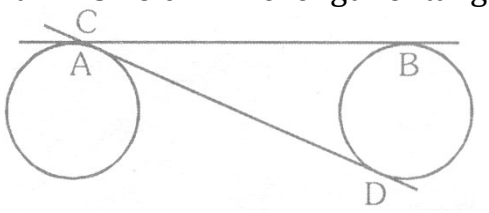
@ 80°@ 120°@ 140°@ Can't be determined@ C

In the adjoining figure O is the centre of the circle.
∠AOD = 120°. If the radius of the circle be 'r', then
find the sum of the areas of quadrilaterals AODP and OBQC:



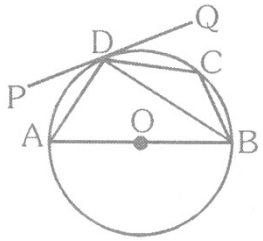
@ $\frac{\sqrt{3}}{2}r^2$ @ $3\sqrt{3}r^2$ @ $\sqrt{3}r^2$ @ None of these@ C

There are two circles each with radius 5 cm.
Tangent AB is 26 cm. The length of tangent CD is:



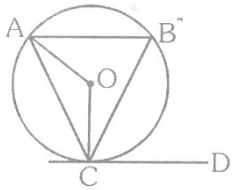
@ 15 cm@ 21 cm@ 24 cm@ Can't be determined@C

In the adjoining figure O is the centre of the
circle and AB is the diameter. Tangent PQ touches
the circle at D. ∠BDQ 48°. Find the value of ∠DBA: ∠DCB:



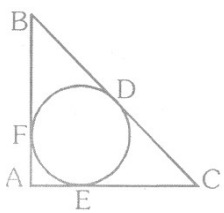
@ $\frac{22}{7}$ @ $\frac{7}{22}$ @ $\frac{7}{12}$ @ Can't be determined@ B

In the given diagram O is the centre of the circle and
CD is a tangent, ∠CAB and ∠ACD are supplementary
to each other ∠OAC 30°. Find the value of ∠OCB:



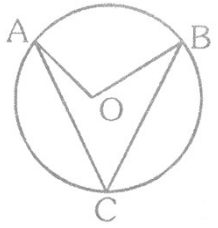
@ 30^o@ 20^o@ 60^o@ None of these@ A

In the given diagram an in circle DEF is circumscribed by
the right angled triangle in which AF = 6 cm and EC = 15 cm.
Find the difference between CD and BD:



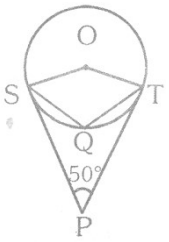
@ 1 cm@ 3 cm@ 4 cm@ Can't be determined@ A

In the adjoining figure 'O' is the centre of circle,
∠CAO = 25° and ∠CBO = 35°. What is the value of ∠AOB?



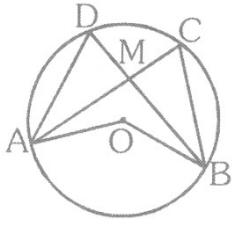
@ 55°@ 110°@ 120°@ Data insufficient @C

In the given figure 'O' is the centre of the circle SP
and TP are the two tangents at S and T respectively.
∠SPT is 50°, the value of ∠SQT is:



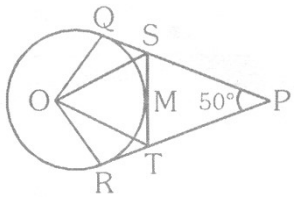
@ 125°@ 65°@ 115°@ None of these @C

In the given figure of circle, 'O' is the centre
of the circle ∠AOB = 130°. What is the value of ∠DMC?



@ 65°@ 125°@ 85°@ Can't be determined@ D

In the adjoining figure ‘O’ is the centre of the circle
of the circle and PQ, PR and ST are the three tangents.
∠QPR = 50°, then the value of ∠SOT is:

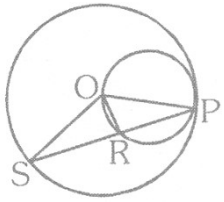


@ 30^{o}@ 75^{o}@ 65^{o}@ Can’t be determined @C

ABC is an isosceles triangle and AC, BC are the tangents
at M and N respectively. DE is the diameter of the circle.
∠ADP = ∠BEQ = 100°. What is value of ∠PRD?

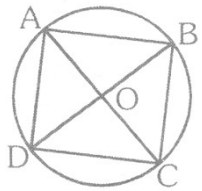
@ 60^{o}@ 50^{o}@ 20^{o}@ Can’t be determined@ C

In the adjoining figure the diameter of the larger
circle is 10 cm and the smaller circle touches internally
the lager circle at P and passes through O, the centre
of the larger circle. Chord SP cuts the smaller circle at
R and OR is equal to 4 cm. What is the length of the chord SP?



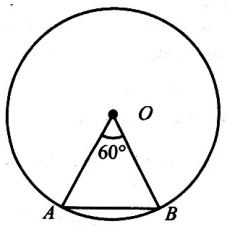
@ 9 cm@ 12 cm@ 6 cm@ $8\sqrt{2}$ cm@C

In the given figure ABCD is a cyclic quadrilateral DO = 8 cm and CO = 4 cm. AC is the angle bisector of ∠BAD. The length of AD is equal to the length of AB. DB intersects diagonal AC at O, then what is the length of the diagonal AC?'



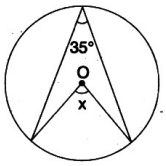
@ 20 cm@ 24 cm@ 16 cm@ None of these@A

In the given figure ∠AOB, chord AB subtends angle equal to 60° at the centre of the circle. If OA = 5 cm, then length of AB (in cm) is :



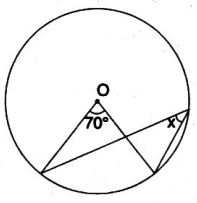
@ $\frac{5}{2}$ cm@ $\frac{5\sqrt{3}}{2}$ cm@ 5 cm@ $\frac{5\sqrt{3}}{4}$ cm@C

Find the angle marked as x in each of following figures where O is the centre of the circle



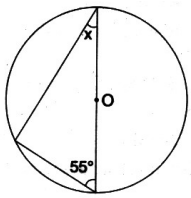
@ 50° @ 70° @ 35°@ 90° @B

Find the angle marked as x in each of following figures where O is the centre of the circle



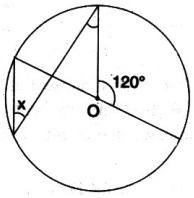
@ 70°@50° @ 35° @ 90° @C

Find the angle marked as x in each of following figures where O is the centre of the circle



@ 35° @ 45° @ 90° @ 55° @A

Find the angle marked as x in each of following figures where O is the centre of the circle

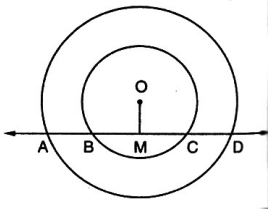


@ 25° @ 60°@ 45° @ 30°@D

84.In the given figure, O is the centre of the circle. The value of x is:@140º@70º@290º@210º@A

85.A quadrilateral ABCD is inscribed in a circle such that AB is a diameter and ∠ADC = 130º. Find ∠BAC@40°@ 70° @ 60° @ 90°@A

Two concentric circles with centre O have A, B, C, D as the points of intersection with the line l as shown in Fig. If AD = 12 cm and BC = 8 cm, find the lengths of AB, CD, AC and BD.

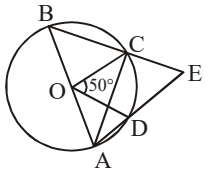


@ 1 cm, 2 cm, 7 cm, 10 cm @ 2 cm, 2 cm, 10 cm, 10 cm@ 2 cm, 1 cm, 8 cm, 8 cm @ 3 cm, 2 cm, 8 cm, 10 cm@B

87.Find the angle marked as x in each of following figures where O is the centre of the circle @ 110°@ 55° @ 90° @ 45°@B

88. A, B, C are three points on the circumference of a circle with centre O such that ∠OAC = 53° and ∠CBO = 32°, then ∠AOB = @ 100°@ 120°@ 150°@ 170°@D

In figure, O is centre, then ∠AEB =

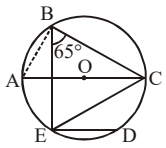


@ 60°(B*)65°@ 70°@ 75°@B

In figure, PQ is a diameter of a circle with centre at O and OR ∠PQ, where R is a point on the circle. If S is another point on the circle such that ∠RPS = 32°, then ∠QRS is:

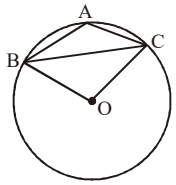
@ 13°@ 26@ 45°@ None of these@A

In the adjoining figure, chord ED is
parallel to the diameter AC of the circle.
If ∠CBE = 65°, then what is the value of ∠DEC?



@ 35°@ 55°@ 45°@ 25°@D

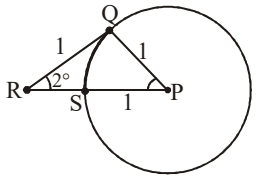
In the given figure, O is the centre. If A is any
point on minor arc BC, then ∠BAC – ∠OBC is equal to



@ 45°@ 135°@ 150°@ 90°@D

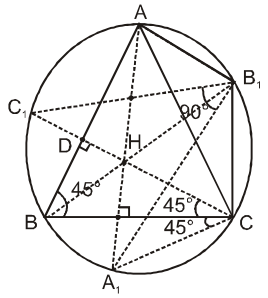
93.One circle has a radius of 5 and its centre at (0, 5). A second circle has a radius of 12 and its centre at (12, 0). What is the length of a radius of a third circle which passes through the centre of the second circle and both the points of intersection of the first two circles.@ 13@ 15@ 13/2@ 15/2@C

Suppose Q is a point on the circle with centre P and radius 1,
as shown in the figure; R is a point outside the circle such that
QR = 1 and ∠QRP = 2°. Let S be the point where the segment
RP intersects the given circle. Then measure of ∠RQS equals



@ 86□ @ 87□ @ 88□@ 89°@B

In an acute-angled triangle ABC, the altitudes
from A, B, C when extended intersect the circumcircle
again at points A₁, B₁, C₁,
respectively. If ∠ABC = 45° then ∠A₁
B₁C₁equals

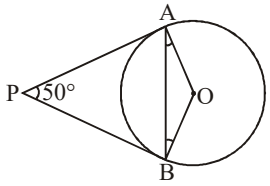


@ 45°@ 60°(C*) 90°@ 135°@C

96. Let ABCD be a square of side length l, and
a circle passing through B and C, and touching AD.
The radius of circle is

@ 3/8@ 1/2@ $\frac{1}{\sqrt{2}}$@ 5/8@D

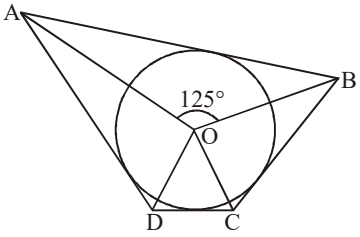
In figure, if PA and PB are tangents to the circle with centre O such that ∠APB = 50°, then ∠OAB equal to



@ 25°@ 30°@ 40°@ 50°@A

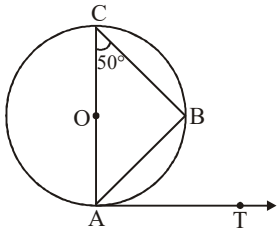
98. In figure, if PQR is the tangent to a circle at Q whose centre is O, AB is a chord parallel to PR and ∠BQR = 70°, then ∠AQB is equal to @ 20°@ 40°@ 35°@ 45°@B

In figure. if ∠AOB = 125°, then ∠COD is equal to



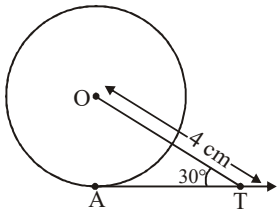
@ 62.5° @ 45°@ 35° @ 55@D

In figure, AB is a chord of the circle and AOC is its diameter such that ∠ACB = 50°. If AT is the tangent to the circle at the point A, then ∠BAT is equal to



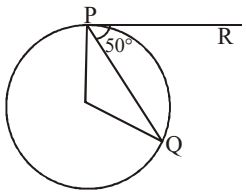
@ 65°@ 60°@ 50°@ 40°@C

In figure, AT is a tangent to the circle with centre O such that OT = 4 cm and ∠OTA=30°.Then AT is equal to



@ 4 cm@ 2 cm(C*) $2\sqrt{3}$ cm@ $4\sqrt{3}$ cm

In figure, if O is the centre of a circle, PQ is a chord and the tangent PR at P makes an angle of 50° with PQ, then ∠POQ is equal to



@ 100°@ 80°@ 90°@ 75°@A