Saitechinfo NEET JEE Academy

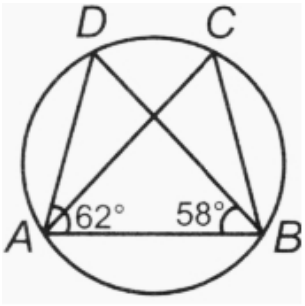
43, Haridoss Main Rd, CH-99. Ph:9444929163

CIRCLES

Class 09 - Mathematics

Time Allowed: 1 hour and 28 minutes **Maximum Marks: 45**

1. In the given figure, if ∠DAB = 62° and ∠ABD=58°, then ∠ACB is equal to_____ . **[1]**



a) 70^o b) 58°

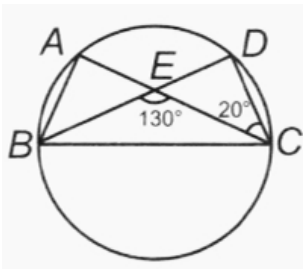
c) 60° d) 40°

2. An equilateral triangle ABC is inscribed in a circle with centre O. The measures of ∠BOC is **[1]**

a) 90^o b) 60^o

c) 30^o d) 120^o

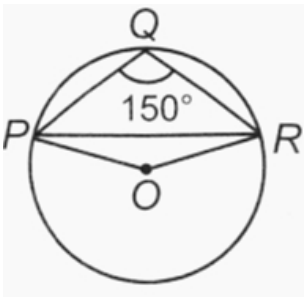
3. A, B, C and D are four points on a circle. AC and BD intersect at a point E such that ∠BEC = 130° and ∠ECD = 20°, then ∠BAC is _____. **[1]**



a) 120° b) 110°

c) 9° d) 100°

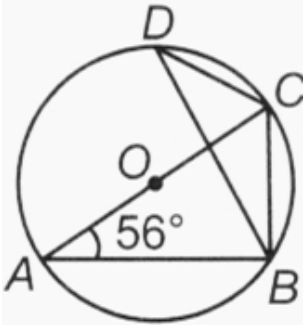
4. In the given figure, ∠PQR = 150°, where P, Q and R are points on a circle with centre O. Then ∠OPR is _____. **[1]**



a) 50° b) 80°

c) 40° d) 60°

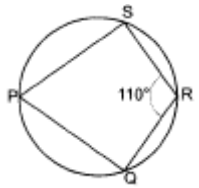
5. In the given figure, O is the centre of the circle and ∠BAC = 56°. The measure of ∠BDC is _____. **[1]**



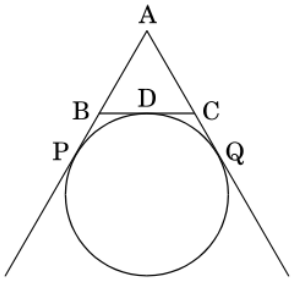
a) 50° b) 46°

c) 40° d) 56°

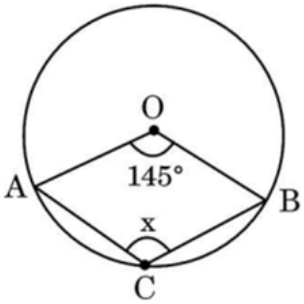
6. In the given figure, PQRS is a cyclic quadrilateral. If ∠QRS = 110°, then find ∠SPQ. **[1]**



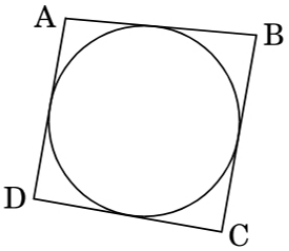
7. In the given figure, find the perimeter of △ABC, if AP = 12 cm. **[1]**



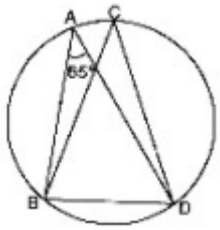
8. In the given figure, O is the centre of the circle. If ∠AOB = 145^{o}, then find the value of x. **[1]**



9. In Figure, a quadrilateral ABCD is drawn to circumscribe a circle. Prove that AB + CD = BC + AD. **[1]**



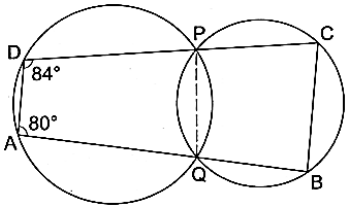
10. In the figure, $\angle BAD = 65^{\circ}$, then find $\angle BCD$ **[1]**



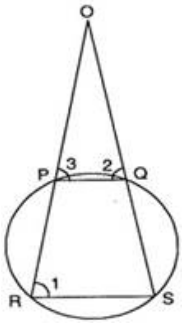
11. Two diameters of a circle intersect each other at right angles. Prove that the quadrilateral formed by joining their end points is a square. **[3]**

12. A chord of a circle is equal to its radius. Find the angle subtended by this chord at a point in major segment. **[3]**

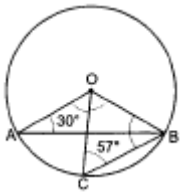
13. In the given figure, two circles intersect at P and Q. If ∠A = 80° and ∠D = 84°, calculate (i) ∠QBC and (ii) ∠BCP **[3]**



14. PQ and RS are two parallel chords of a circle and lines RP and SQ intersect each other at O. Prove that OP = OQ. **[3]**



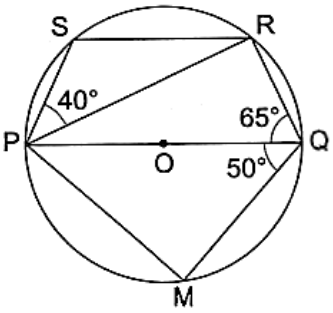
15. In given figure, ∠OAB = 30^o and ∠OCB = 57^o. Find ∠BOC and ∠AOC. **[3]**



16. If ABC is an equilateral triangle inscribed in a circle and P be any point on the minor arc BC which does not coincide with B or C, prove that PA is angle bisector of ∠BPC. **[5]**

17. A chord of length 30 cm is drawn at a distance of 8 cm from the centre of a circle. Find out the radius of the circle. **[5]**

18. In the given figure, PQ is a diameter of a circle with centre O. If $\angle PQR = 65^\circ, \angle SPR = 40^\circ$, and $\angle PQM = 50^\circ$, find $\angle QPR, \angle QPM$ and $\angle PRS$ **[5]**



19. In the given figure, ABCD is a cyclic quadrilateral in which AB||DC. If ∠BAD = 100°, find (i) ∠BCD, (ii) ∠ADC, (iii) ∠ABC. **[5]**