Worksheet: Circles

NIOS · Class 9 · Mathematics · 12 questions · 26 marks

Name: _____ Date: _____ Score: _____ / 26

Q1. A chord of length 16 cm is at perpendicular distance 6 cm from the centre. Find the radius. *[1 mark]*

Q2. An arc subtends an angle of 100° at the centre. What angle does it subtend at a point on the major arc? *[1 mark]*

Q3. In a circle, AB is a diameter and P is a point on the circle. What is APB? *[1 mark]*

Q4. In cyclic quadrilateral ABCD, A = 80°. Find C. *[1 mark]*

Q5. In a circle, points A, B, C, D lie on the same arc. If ACB = 40°, find ADB. *[1 mark]*

Q6. In a circle of radius 13 cm, a chord is at distance 5 cm from the centre. Find the length of the chord. *[2 marks]*

Q7. Two chords of a circle, AB = 16 cm and CD = 12 cm. The perpendicular from the centre to AB is 6 cm. Find the perpendicular distance from the centre to CD. (Radius is the same circle.) *[2 marks]*

Q8. In a circle, an arc subtends an angle of 130° at the centre. Find the angles subtended at any point on (a) the major arc, (b) the minor arc. *[3 marks]*

Q9. In cyclic quadrilateral ABCD, A : B = 2 : 3. If C = 70°, find A, B, D. *[3 marks]*

Q10. Two equal chords AB and CD of a circle intersect at point P inside the circle. Prove that PA = PD (or equivalently, the segments from P to corresponding endpoints are equal). *[3 marks]*

Q11. Prove Theorem 4 for the case where the centre lies INSIDE ∠APB (where APB is the inscribed angle). *[4 marks]*

Q12. Prove: if a parallelogram is cyclic, it must be a rectangle. *[4 marks]*