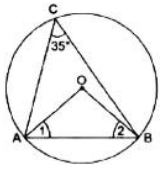
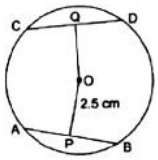
Ch-9 Circles

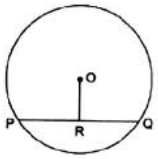
1. In the figure, if ∠ACB = 35°, then find the measure of ∠OAB.



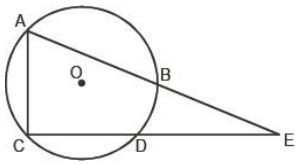
2. The diameter of circle is 3.8 cm. Find the length of its radius.
3. AB and CD are two parallel chords of a circle which are on opposite sides of the centre such that AB = 24 cm and CD = 10 cm and the distance between AB and CD is 17 cm. Find the radius of the circle.
4. The radius of a circle is 17 cm. A chord of length 30 cm is drawn. Find the distance of the chord from the centre.
5. An equilateral triangle is inscribed in a circle. Find the radius of the circle.
6. In the figure, AB = CD. P and Q are the mid-points of AB and CD respectively. What is the length of OQ?



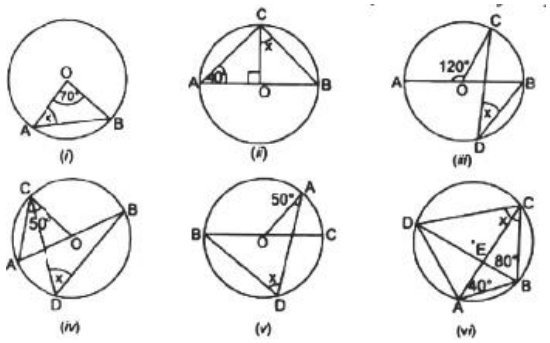
7. In the figure, R is the midpoint of PQ. What is the measure of ∠ORQ?



8. l is a line intersecting two concentric circles having common centre O, at A, B, C and D. Prove that AB = CD.
9. AB and CD are equal chords of a circle whose centre is O. When produced, these chords meet at E. Prove that EB = ED.

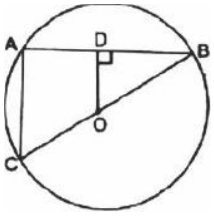


10. If O be the centre of the circle, find the value of 'x' in each of the following figures.

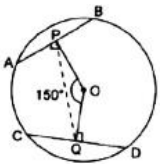


11. Prove that equal chords of a circle subtend equal angles at the centre.
12. The line drawn through the centre of a circle to bisect a chord is perpendicular to the chord. Prove it.
13. Prove that equal chords of a circle (or congruent circles) are equidistant from the centre (or centres).

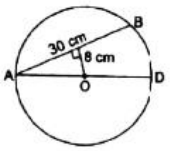
14. In the figure, OD is perpendicular to the chord AB of a circle with centre O. If BC is a diameter, show that AC || OD and AC = 20D.



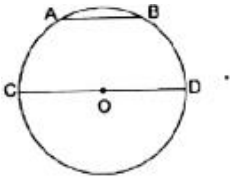
15. If two intersecting chords of a circle make equal angles with the diameter passing through their point of intersection, prove that the chords are equal.
16. Show that the angles in the same segment of a circle are equal.
17. In the figure, AB and CD are two equal chords of the circle with centre O. OP and OQ are perpendiculars on chords AB and CD respectively. If ∠POQ = 150º, then what is ∠APQ?



18. AD is a diameter of a circle and AB is a chord. If AB = 30 cm and its perpendicular distance from the centre of the circle is 8 cm, then what is the length of the diameter AD?



19. A circle of 30 cm diameter has a 24 cm chord What is the distance of the chord from the centre?
20. A chord AB of a circle with centre O is 10 cm. If the chord is 12 cm away from the centre, then what is the radius of the circle?
21. If the diameter AD of a circle is 34 cm and the length of a chord AB is 30 cm. What is the distance of AB from the centre?
22. What is the length of a chord which is at a distance of 4 cm from the centre of a circle of radius 5 cm?
23. If the radius of a circle is 13 cm and the length of its chord is 10 cm, then what is the distance of chord from the centre?
24. If the distance of 10 cm long chord from the centre of the circle is 12 cm, then what is the diameter of the circle?
25. In the figure. AB and CD are two chords of a circle with centre O, such that C, O, D are collinear and AB = $\frac{1}{3}$CD. If AB = 3 cm, then what is the radius of the circle?



26. Two circles having radii 5 cm and 3 cm intersect each other at two distinct points. If the distance between their centres is 4 cm, then what is the length of the common chord?