

Circles – Theorems for class IX

1. Equal chords subtend equal angles at the centre of circle.
2. Equal angles at the centre of circle are subtended by equal chords.
3. Perpendicular from centre of circle to the chord bisects it.
4. Line joining centre of circle to midpoint of chord is perpendicular to it.
5. Perpendicular bisector of a chord passes through centre of circle.
6. Equal chords are equidistant from centre of circle.
7. Equidistant chords from centre of circle are equal.
8. Angle subtended by an arc at centre of circle is twice the angle subtended by it on the remaining part of the circle.
9. Angles in same segment are equal.
10. Angle in semi-circle is a right angle.
11. Equal chords have equal (congruent) corresponding arcs
12. Equal (congruent) arcs have equal corresponding chords.
13. Cyclic Quadrilateral: A quadrilateral whose all 4 vertices lie on circle.
14. Opposite angles of a cyclic quadrilateral are supplementary.
15. Exterior angle of cyclic quadrilateral is equal to interior opposite angle.
16. No circle passes through 3 collinear points.
17. One and only one circle passes through 3 non collinear points.
18. If a line segment subtends 2 equal angles on the same side, then the 4 points are concyclic.
19. Chord nearer to centre of circle is longer.
20. Longer chord is nearer to centre of circle.
21. Angle subtended by a minor arc in the corresponding major segment is acute.
22. Angle subtended by a major arc in the corresponding minor segment is obtuse.