

## CBSE Class 09 Mathematics

### Revision Notes

### CHAPTER 10

### CIRCLES

- **Circles and its Related Terms : A Review**
- **Angle Subtended by the chord at a Point**
- **Perpendicular from the centre to a Chord**
- **Circle through three given points.**
- **Equal Chords and their distances from the Centre**
- **Angle Subtended by an Arc of a Circle**
- **Cyclic Quadrilaterals**
  
- **Circle** - Circle is a locus of such points which are at equidistant from a fixed point in a plane. Also, a circle is the collection of those points in a plane that are at a given constant distance from a given fixed-point in the plane. The fixed point is called the centre and the given distance is called the radius of the circle.
- **Concentric circles** - Circles having same centre and different radii are called concentric circles.
- **Arc** - A continuous piece of a circle is called an arc of the circle.
- **Chord** - A line segment joining any two points on a circle is called the chord of the circle.
- A chord passing through the centre of a circle is called the diameter of the circle.
- A diameter of a circle divides it into two equal parts which are arcs. Each of these two arcs is called a semi-circle.
- Two arcs of a circle are called congruent if they have the same degree of measure.
- If two arcs are equal, then their corresponding chords are also equal.
- The perpendicular drawn from centre to the chord of circle bisects the chord and vice-versa.
- There is one and only one circle passing through three non-collinear points.
- Equal chords of circle are equidistant from centre.
- If two circles intersect in two points, then the line through the centres is

perpendicular to the common chord.

- The angle subtended by an arc at the centre of circle is twice the angle subtended at remaining part of circumference.
- Any two angles in the same segment of the circle are equal.
- Equal chords of a circle subtend equal angle at the centre.
- Out of two chords of a circle, the larger chord is nearer to the centre.
- Angle of semicircle is right angle.
- Equal chords of circle subtend equal angle at the centre of circle.
- If all the vertices of a quadrilateral lies on the circumference of circle, then quadrilateral is called cyclic.
- In a cyclic quadrilateral the sum of opposite angles is  $180^\circ$  and vice-versa.
- The exterior angle of a cyclic quadrilateral is equal to the interior opposite angle.