

Chapter-10

Circles

- **Circles:** A circle is a collection of all those points in a plane which are at a constant distance (radius) from a fixed point (center).
- **Secant:** A line which intersects a circle in two distinct points is called a secant of the circle.
- **Tangent to a Circle:** The tangent to a circle is a special case of secant, when the two end points of its corresponding chord coincide.
 - (i) There is no tangent to a circle passing through a point lying inside the circle.
 - (ii) There is one and only one tangent to a circle passing through a point lying on the circle.
 - (iii) There are exactly two tangents to a circle through a point outside the circle.
- **Length of the Tangent:**
 - (i) The length of the segment of the tangent from the external point and the point of contact with the circle is called the length of the tangent from the external point to the circle.
 - (ii) The length of two tangents drawn from the same external point are equal.