



# ATOMIC ENERGY CENTRAL SCHOOL- KAKRAPAR

CLASS- X

SUBJECT- MATHEMETICS

NAME OF THE CHAPTER- 10, CIRCLE

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MODULE-1

Subtopics-

Introduction-Secant

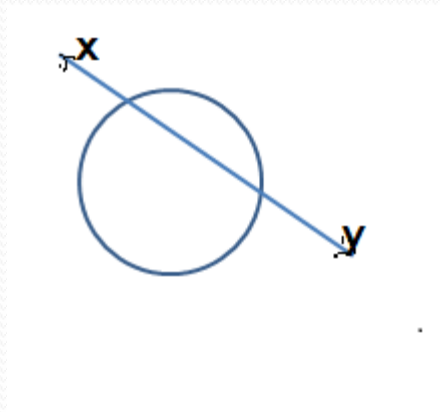
Segment, Sector, Chord

# Introduction

You have studied in Class IX that a circle is a collection of all points in a plane which are at a constant distance (radius) from a fixed point (centre). You have also studied various terms related to a circle like chord, segment, sector, arc etc. but we will revise all basic term like above.

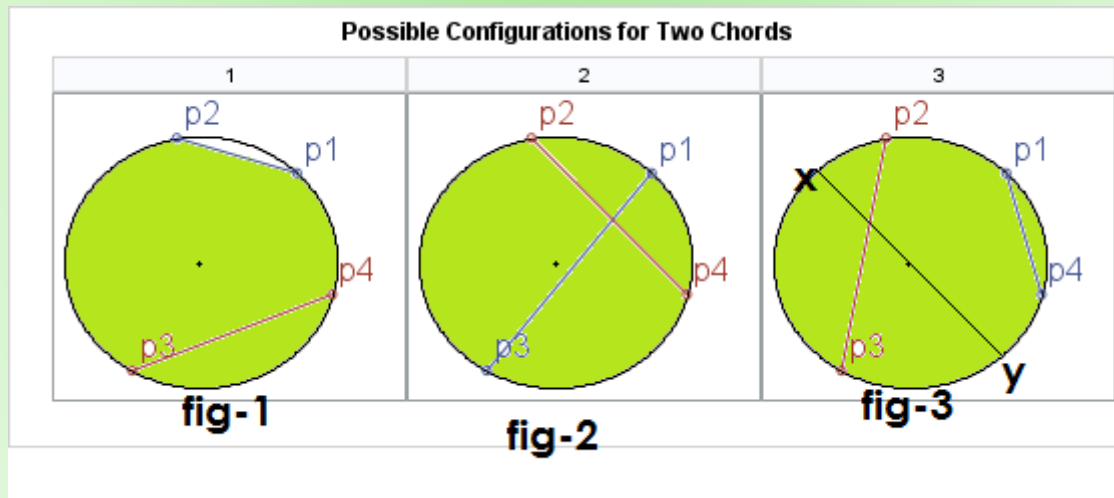
# BASIC TERM USED IN CIRCLE

**Secant**-In geometry, a **secant** of a curve is a line that intersects the curve at a minimum of two distinct points. The word **secant** comes from the Latin word *secare*, meaning to cut.



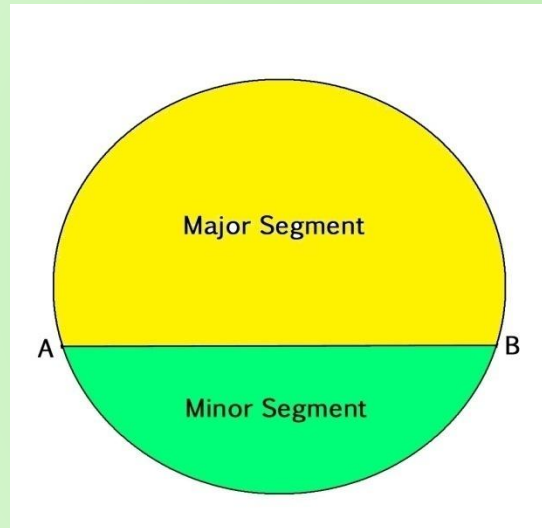
# Chord of a Circle

**Chord of a circle** is a straight line segment whose endpoints both lie on the **circle**. More generally, a **chord** is a line segment joining two points on any curve, for instance, an ellipse.



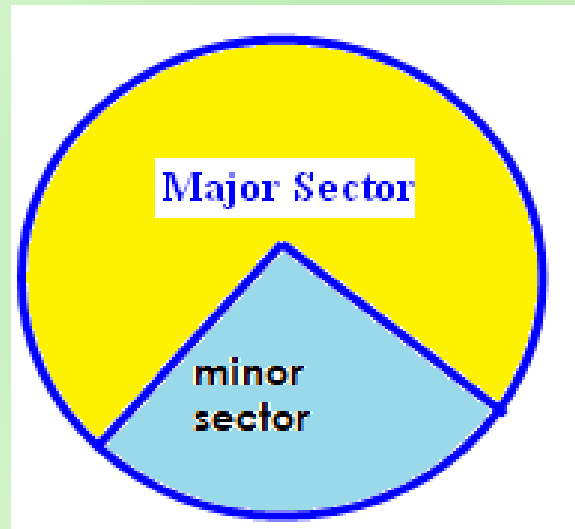
# Segment of a circle

The **segment of a circle** is the region bounded by a chord and the arc subtended by the chord.



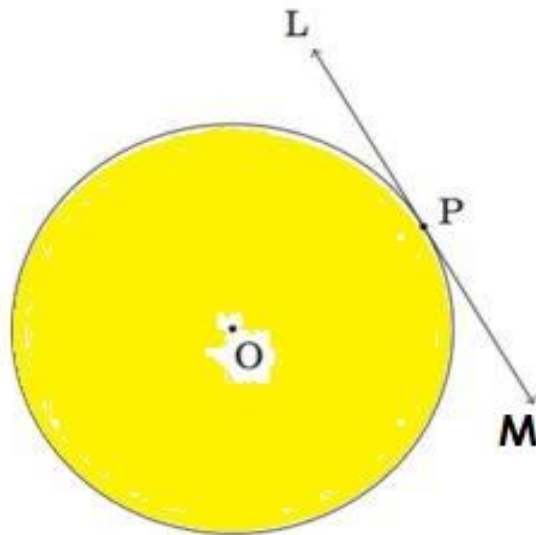
# Sector of a Circle

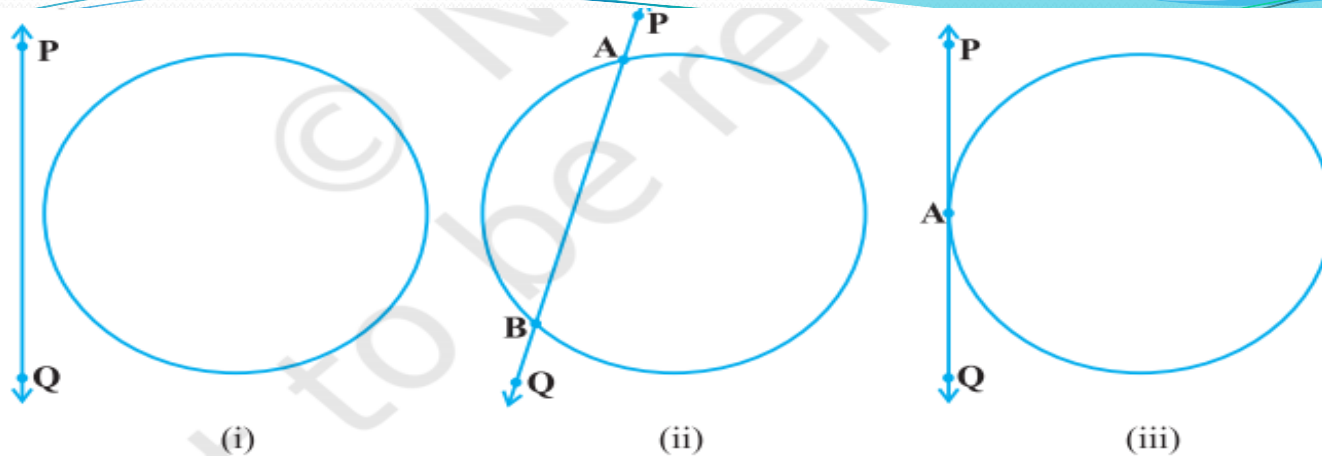
A **sector of a circle** is a portion of the circle made of its arc and two radii.



# Tangent of a Circle

- A **tangent** to a **circle**, is a line that touches the **circle** at exactly one point, never entering the **circle's** interior.

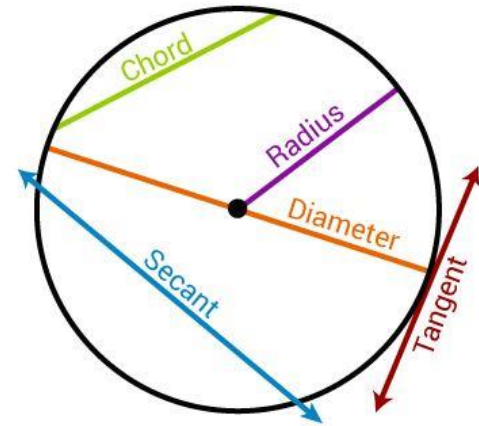
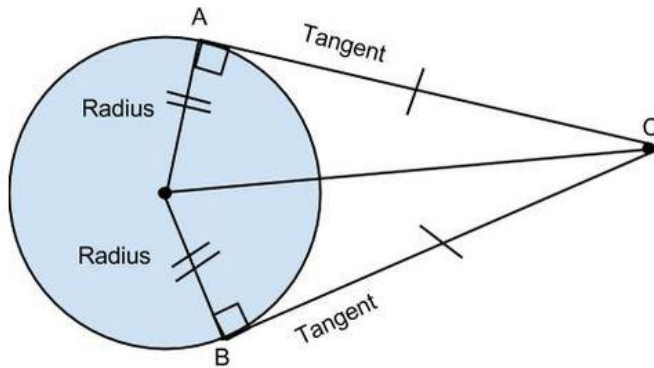




In Fig. 10.1 (i), the line PQ and the circle have no common point. In this case, PQ is called a **non-intersecting** line with respect to the circle. In Fig. 10.1 (ii), there are two common points A and B that the line PQ and the circle have. In this case, we call the line PQ a **secant** of the circle. In Fig. 10.1 (iii), there is only one point A which is common to the line PQ and the circle. In this case, the line is called a **tangent** to the circle.



- Remember the following points about the properties of tangents-
- The tangent line never crosses the circle, it just touches the circle.
- At the point of tangency, it is perpendicular to the radius.
- From the same external point, the tangent segments to a circle are equal.





THANK YOU