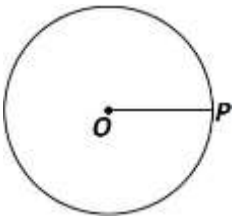
Unit 9 Chord of the Circle

Q: Define and draw a circle.
A circle is the locus of a moving point in a plane which is always equidistant from a fixed point. The fixed point is called center of the circle. In figure O is a center.



Q: Define Radial segment of the circle.
The line segment joining the center of a circle to any point of the circle is called radial segment. In figure $\overline{OP}$ is a radial segment.

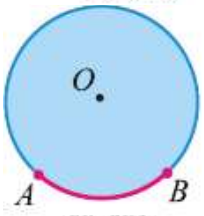
Q: Define Radius of a circle.
The distance from center of the circle to any point on the circle is called the radius of the circle.

Note: The length of radial segment of a circle is equal to its radius.

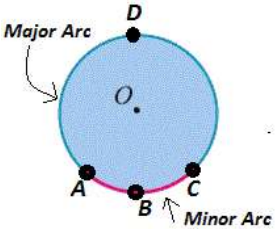
Q: Define and draw circumference of a circle also write its formula.
The perimeter or length of boundary of the circle is called circumference. Circumference of a circle. This is calculated by formula $C = 2\pi r$, where r is radius of circle and $\pi = \frac{22}{7}$.

Q: Define and draw an arc of circle. Give its types.
Any part of the circumference of a circle is called an arc. There are two types of arc:

- **(i)** Major arc
- **(ii)** Minor arc



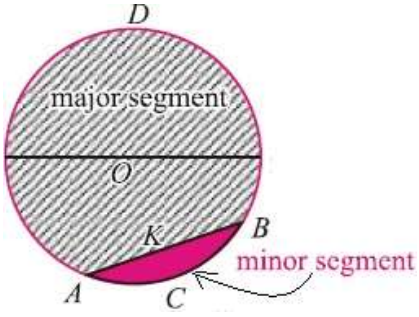
Q: Differentiate between major arc and minor arc by diagrammatically.
Major arc: The arc which is greater than a semi-circle called major arc. In figure ADC is a major arc.
Minor arc: The arc which is less than a semi-circle called minor arc. In figure ABC is a minor arc.



Q: Define and draw segment of a circle. Give its types.
The part of a circle bounded by an arc and a chord is called segment of a circle. There are two types of segment of circle:

- **(i)** Major segment
- **(ii)** Minor segment

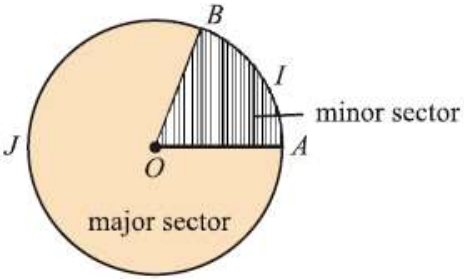
Q: Differentiate between Major Segment and Minor Segment.
Major segment: The circular region bounded by a major arc and a corresponding Chord is called major segment.
Minor segment: The circular region bounded by a minor arc and a corresponding Chord is called minor segment.



Q: Define and draw sector of circle. Give its types.
A part of a circle bounded by two radii and an arc is called sector of a circle. Any pair of two radii divides a circle into two sectors.

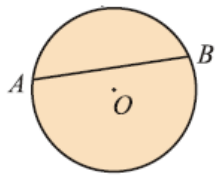
- **(i)** Minor sector
- **(ii)** Major sector

In figure $OAIB$ is a minor sector, whereas $OAJB$ is the major sector of circle.

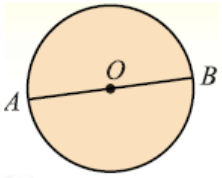


Q: Define circular area. Also write its formula.
Area of region enclosed by the boundary of circle is called circular area. Circular area is calculated by formula $A = \pi r^2$.

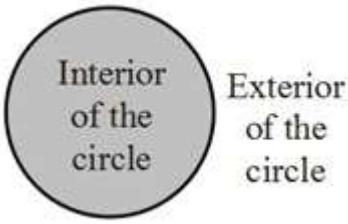
Q: Define and draw chord of a circle.
The line segment joining any two points on the circumference of a circle is called Chord. In figure $\overline{AB}$ is a Chord.



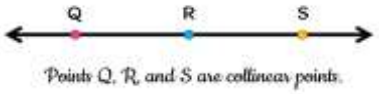
Q: Define diameter OR Central chord of a circle.
The chord which passes through the center of the circle is called diameter of the circle. In figure AOB is a diameter.



Q: Differentiate between Interior and Exterior of a circle and illustrate by diagram.
Interior of a circle: The set of all points lying on and inside the boundary of a circle is called interior of a circle.
Exterior of a circle: The set of all points lying outside the boundary of the circle is called exterior of a circle.

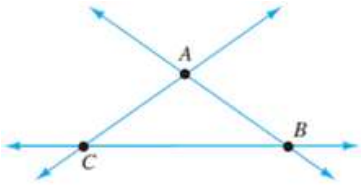


Q: Define collinear points.
Three or more than three points laying on the same line are called collinear points.



Points Q, R, and S are collinear points.

Q: Define non-collinear points.
Three or more than three points not laying on the same line are called non-collinear points.



A, B, and C are noncollinear points.

Note: Two points are always collinear on a line.