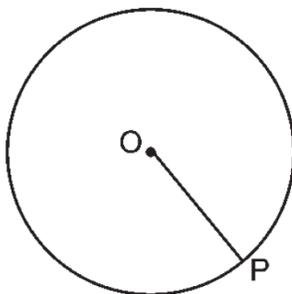


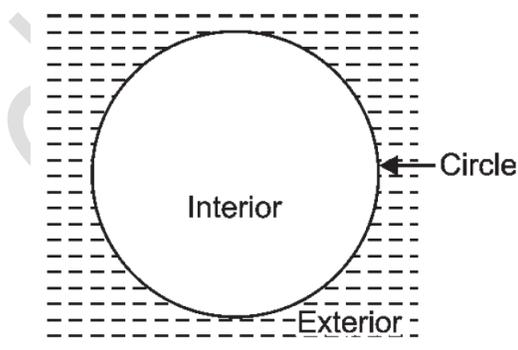
Basic Concepts

1. The collection of all the points in a plane, which are at a fixed distance from a fixed point in the plane, is called a circle.
2. The fixed point is called the centre of the circle and the fixed distance is called the radius of the circle.

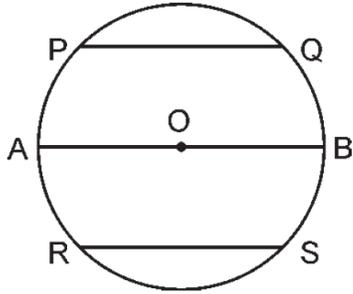


In the given figure, O is the centre and the length OP is the radius of the circle.

3. A circle divides the plane on which it lies into three parts. They are:
 - (i) Inside the circle, which is also called the interior of the circle
 - (ii) The circle and
 - (iii) Outside the circle, which is also called the exterior of the circle.The circle and its interior make up the circular region.



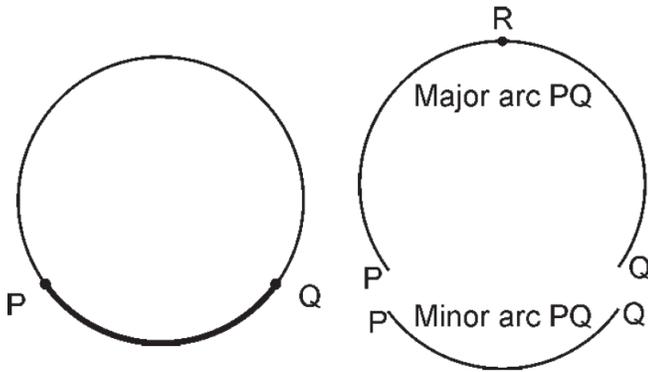
4. A chord of a circle is a line segment joining any two points on the circle. In the given figure PQ, RS and AOB are the chords of a circle.



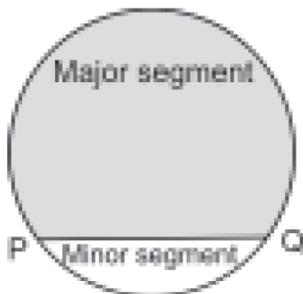
5. A diameter is a chord of a circle passing through the centre of the circle. In the given figure, AOB is the diameter of the circle. A diameter is the longest chord of a circle.

$$\text{Diameter} = 2 \times \text{radius}$$

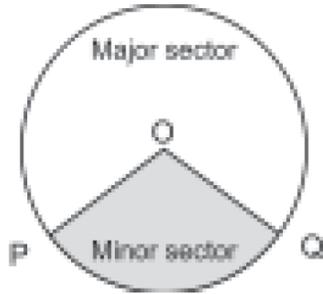
6. A piece of a circle between the points is called an arc. Look at the piece of the circle between two points P and Q in the given figure. You find that there are two pieces, one longer and the other smaller. The longer one is called the major arc PQ and the shorter one is called the minor arc PQ.



7. The length of the complete circle is called its circumference. The region between a chord and either of its arcs is called a segment of the circular region or simply a segment of the circle. There are two types of segments, which are the major segment and the minor segment.



8. The region between an arc and the two radii, joining the centre of the end points of the arc is called a sector. The minor arc corresponds to the minor sector and the major arc corresponds to the major sector.



9. Equal chords of a circle subtend equal angles at the centre.
10. If the angles subtended by the chords of a circle at the centre are equal, then the chords are equal.
11. The perpendicular from the centre of a circle to a chord bisects the chord.
12. The line drawn through the centre of a circle to bisect a chord is perpendicular to the chord.
13. There is one and only one circle passing through three non – collinear points.