EXERCISE: 10.1   (PAGE NO: 171)

1. Fill in the blanks.

(i) The centre of a circle lies in _____ of the circle. (exterior/ interior)

(ii) A point whose distance from the centre of a circle is greater than its radius lies in _____ of the circle. (exterior/ interior)

(iii) The longest chord of a circle is a _____ of the circle.

(iv) An arc is a _____ when its ends are the ends of a diameter.

(v) Segment of a circle is the region between an arc and _____ of the circle.

(vi) A circle divides the plane, on which it lies, in _____ parts.

Solution:

(i) The centre of a circle lies in **interior** of the circle.

(ii) A point, whose distance from the centre of a circle is greater than its radius lies in **exterior** of the circle.

(iii) The longest chord of a circle is a **diameter** of the circle.

(iv) An arc is a **semicircle** when its ends are the ends of a diameter.

(v) Segment of a circle is the region between an arc and **chord** of the circle.

(vi) A circle divides the plane, on which it lies, in **3 (three)** parts.

2. Write True or False. Give reasons for your solutions.

(i) Line segment joining the centre to any point on the circle is a radius of the circle.

(ii) A circle has only a finite number of equal chords.

(iii) If a circle is divided into three equal arcs, each is a major arc.

(iv) A chord of a circle, which is twice as long as its radius, is the diameter of the circle.

(v) Sector is the region between the chord and its corresponding arc.

(vi) A circle is a plane figure.

Solution:

(i) **True.** Any line segment drawn from the centre of the circle to any point on it is the radius of the circle and will be of equal length.

(ii) **False.** There can be infinite numbers of equal chords in a circle.

(iii) **False.** For unequal arcs, there can be major and minor arcs. So, equal arcs on a circle cannot be said to be major arcs or minor arcs.

(iv) **True.** Any chord whose length is twice as long as the radius of the circle always passes through the centre of the circle, and thus, it is known as the diameter of the circle.

(v) **False.** A sector is a region of a circle between the arc and the two radii of the circle.

(vi) **True.** A circle is a 2d figure, and it can be drawn on a plane.