

Mathematics

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(Chapter - 10)(Circles)

(Class - 9)

Exercise 10.1

Question 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.

Answer 1:

- (i) The centre of a circle lies in **interior** of the circle. (exterior/ interior)
- (ii) A point, whose distance from the centre of a circle is greater than its radius lies in **exterior** of the circle. (exterior/ interior)
- (iii) The longest chord of a circle is a **diameter** of the circle.
- (iv) An arc is a **semi-circle** 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 **two** parts.

Question 2:

Write True or False: Give reasons for your answers.

- (i) Line segment joining the centre to any point on the circle is a radius of the circle.
- (ii) A circle has only 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 a diameter of the circle.
- (v) Sector is the region between the chord and its corresponding arc.
- (vi) A circle is a plane figure.

Answer 2:

- (i) Line segment joining the centre to any point on the circle is a radius of the circle. **True**
- (ii) A circle has only finite number of equal chords. **False**. Because, there are infinite number of equal chords in a circle.
- (iii) If a circle is divided into three equal arcs, each is a major arc. **False**. Because, each arc will make an angle of 120° at the centre. But major arc make angle greater than 180° at the centre.
- (iv) A chord of a circle, which is twice as long as its radius, is a diameter of the circle. **True**
- (v) Sector is the region between the chord and its corresponding arc. **False**. Because, between chord and arc a segment is formed. Sector is the region which is formed between radii and arc.
- (vi) A circle is a plane figure. **True**