SOLVED MISCELLANEOUS EXERCISE - 11

1. **Multiple Choice Questions**
Four possible answers are given for the following questions.
Tick (✓) the correct answer.

(i) A 4 cm long chord sub stands a central angle of 60°. The radial segment this circle is:
(a) 1 (b) 1 (c) 3 (d) 4

(ii) The length of a chord and the radial segment of a circle are congruent, the central angle made by the chord will be:
(a) 30° (b) 45° (c) 60° (d) 75°

(iii) Out of two congruent arcs of a circle, if one are makes a central angle of 30° then the other arc will subtend the central angle of:
(a) 15° (b) 30° (c) 45° (d) 60°

(iv) An arc subtends a central angle of 40° then the corresponding chord will subtend a central angle of:
(a) 26° (b) 40° (c) 60° (d) 8.0°

(v) A pair of chords of a circle subtending two congruent central angles is:
(a) congruent (b) incongruent (c) overlapping (d) parallel

(vi) If an area of a circle subtends a central angle of 60°, then the corresponding chord of the area will make the central angle of:
(a) 20° (b) 40° (c) 60° (d) 80°

(vii) The semi circumference and the diameter of a circle both subtend a central angle of:
(a) 90° (b) 180° (c) 270° (d) 360°

(viii) The chord length of a circle subtending a central angle of 180° is always:
(a) less than radial segment (b) equal to the radial segment
(c) double of the radial segment (d) none of these

(ix) If a chord of a circle subtends, a central angle of 60°, then the length of the chord and the radial segment are:
(a) congruent (b) incongruent (c) parallel (d) perpendicular

(x) The arcs opposite to incongruent central angles of a circle are always:
(a) congruent (b) incongruent (c) parallel (d) perpendicular

Answers:

(i)	d	(ii)	c	(iii)	b	(iv)	b	(v)	a
(vi)	d	(vii)	d	(viii)	b	(ix)	a	(x)	b

SUMMARY

- ✔ The boundary traced by a moving point in a circle is called its circumference whereas any portion of the circumference will be known as an arc of the circle.
- ✔ The straight, line joining any two points of the circumference is called a chord of the circle.
- ✔ The portion of a circle bounded by an arc and a chord is known as the segment of a circle.
- ✔ The circular region bounded by an arc of a circle and its two corresponding radial segments is called a sector of the circle.
- ✔ A straight Sine, drawn from the centre of a circle bisecting a chord is perpendicular to the chord and conversely perpendicular drawn from the centre of a circle on a chord, bisects it.
- ✔ If two arcs of a circle (or of congruent circles) are congruent, then the corresponding chords are equal.
- ✔ If two chords of a circle (or of congruent circles) are equal, then their corresponding arcs (minor, major or semi-circular) are congruent.
- ✔ Equal chords of a circle (or of congruent circles) subtend equal angles at the centre (at the corresponding centres).
- ✔ If the angles subtended by two chords of a circle (or congruent circles) at the centre (corresponding centres) are equal, the chords are equal.

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