CHAPTER–9 | : Circle

QUIZ PART–09

1. Congruent arcs subtend:
A) Equal angles at the center
B) Unequal angles at the center
C) 90° angles at the center
D) 180° angles at the center (A)
Explanation: Congruent arcs subtend equal angles at the center.

2. The angle subtended by an arc at the center is twice the angle subtended at any point on the circumference. This is given by:
A) Theorem 9.7
B) Theorem 9.8
C) Theorem 9.9
D) Theorem 9.6 (A)
Explanation: Theorem 9.7 states the angle subtended by an arc at the center is double the angle subtended at any point on the circumference.

3. Angles in the same segment of a circle are:
A) Equal
B) Unequal
C) Complementary
D) Supplementary (A)
Explanation: Theorem 9.8 states that angles in the same segment of a circle are equal.

4. If a line segment joining two points subtends equal angles at two other points on the same side, these four points are:
A) Coplanar
B) Concyclic
C) Equal
D) Parallel (B)
Explanation: Theorem 9.9 states that four points lying on the same side of the line and subtending equal angles are concyclic.

5. What is true about the angle ∠AOB and ∠ACB, where AB is an arc and O is the center?
A) ∠AOB = ∠ACB
B) ∠AOB = 2∠ACB
C) ∠AOB = 3∠ACB
D) ∠AOB = 0.5∠ACB (B)
Explanation: The angle at the center is twice the angle at the circumference, as per Theorem 9.7.

6. The relationship between ∠BAD and ∠BCD, where BAD is an angle made by an arc, is:
A) ∠BAD = ∠BCD
B) ∠BAD = 2∠BCD
C) ∠BAD = 0.5∠BCD
D) ∠BAD = 3∠BCD (B)
Explanation: As per Theorem 9.7, the angle at the center is double the angle subtended at any point on the remaining part of the circle.

7. In a circle, the angles in the same segment are:
A) Always equal
B) Always 90°
C) Always complementary
D) None of the above (A)
Explanation: Angles in the same segment are always equal (Theorem 9.8).

8. The angle subtended by an arc at the center is twice the angle subtended at any point on the circumference. This relationship is given by:
A) Theorem 9.7
B) Theorem 9.8
C) Theorem 9.9
D) Theorem 9.6 (A)
Explanation: Theorem 9.7 gives the relationship that the central angle is twice the angle at the circumference.

9. If two points on the circle subtend equal angles at two other points on the same side, these points are:
A) Coincident
B) Concentric
C) Concyclic
D) Coplanar (C)
Explanation: Points that subtend equal angles on the same side of a line are concyclic.

10. In a cyclic quadrilateral, the sum of opposite angles is:
A) 90°
B) 180°
C) 360°
D) 0° (B)
Explanation: In a cyclic quadrilateral, the sum of opposite angles is 180°.