Circles Geometry Quiz

Grade Level: Grade 9 | **Date:** 2025-11-16 16:40:57

Instructions: Answer all questions. Show your work where applicable.

Question 1: If two chords of a circle are equal in length, what can be said about the angles they subtend at the center of the circle?

A) The angle subtended by the longer chord is larger.
B) The angles subtended are always 90 degrees.
C) The angles subtended are equal.
D) The angles subtended are complementary.

Question 2: A chord AB of a circle has a length of 12 cm. If a line segment is drawn from the center O perpendicular to the chord AB, what is the length of the segment from A to the point where the perpendicular meets AB?

Answer: _____

Question 3: An arc of a circle subtends an angle of 110° at the center. What angle will the same arc subtend at any point on the remaining part of the circle?

A) 55°
B) 110°
C) 220°
D) 70°

Question 4: In a cyclic quadrilateral ABCD, if angle B is 85°, what is the measure of angle D?

Answer: _____

Answer Key

Question 1: C

Explanation: According to Theorem 9.1, equal chords of a circle subtend equal angles at the center.

Question 2: 6 cm

Explanation: Theorem 9.3 states that the perpendicular from the center of a circle to a chord bisects the chord. This means it divides the chord into two equal halves. So, half of 12 cm is 6 cm.

Question 3: A

Explanation: Theorem 9.8 states that the angle subtended by an arc at the center is double the angle subtended by it at any point on the remaining part of the circle. Therefore, the angle at the remaining part is half of the angle at the center (110° / 2 = 55°).

Question 4: 95°

Explanation: Theorem 9.11 states that the sum of either pair of opposite angles of a cyclic quadrilateral is 180°. So, Angle D = 180° - Angle B = 180° - 85° = 95°.