

Geometry - Circles: Angles, Chords and Tangents - Quiz

Common Core G-C.A.1, G-C.A.2, G-C.A.3, G-C.A.4 · maths-pdf.fr/en/

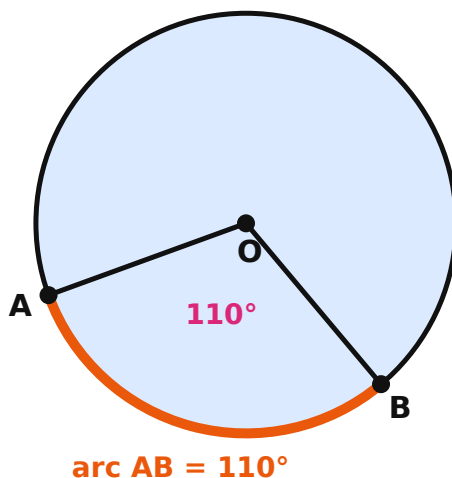
Name: _____ Class: _____ Date: ____/____/____

Test your understanding of circle angles with this 10-question multiple-choice quiz. Each question has one correct answer, and the explanation after it names the typical mistake behind the wrong choices. Take it after the lesson or before the test.

Geometry · Common Core State Standards: **G-C.A.1, G-C.A.2, G-C.A.3, G-C.A.4**

Questions

Question 1

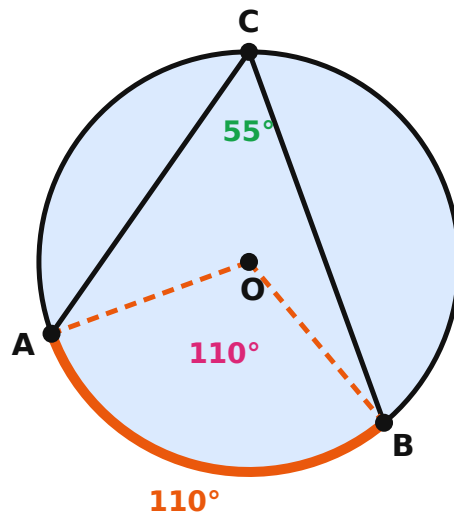


A central angle equals its intercepted arc.

The central angle AOB is 110 degrees. What is arc AB?

- A. 110 degrees
- B. 55 degrees
- C. 220 degrees
- D. 70 degrees

Question 2

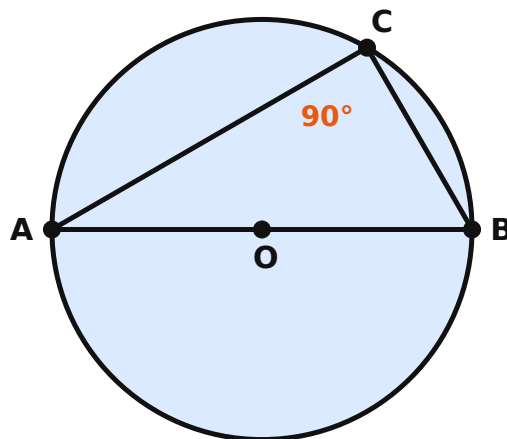


An inscribed angle is half of its intercepted arc: $110/2 = 55$.

The arc AB is 110 degrees. What is the inscribed angle ACB?

- A. 110 degrees
- B. 220 degrees
- C. 55 degrees
- D. 35 degrees

Question 3



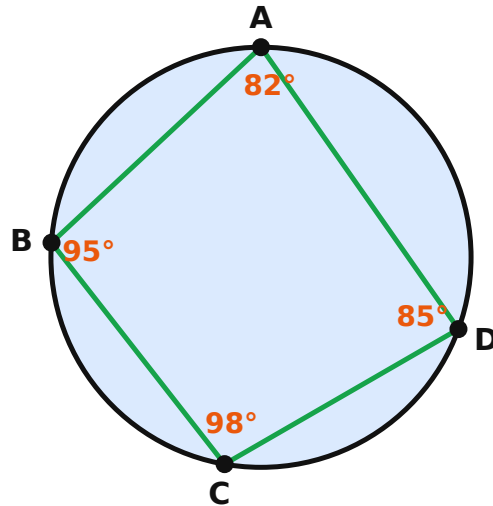
An angle inscribed in a semicircle is a right angle.

AB is a diameter. What is the measure of angle ACB?

- A. 180 degrees

- B. 45 degrees
- C. 60 degrees
- D. 90 degrees

Question 4



Opposite angles of an inscribed quadrilateral are supplementary.

Quadrilateral ABCD is inscribed in a circle. If angle A is 82 degrees, what is angle C?

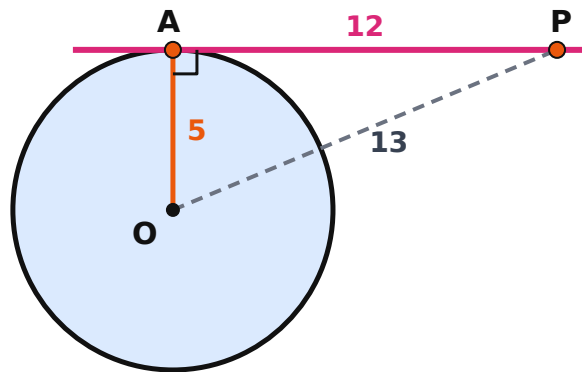
- A. 82 degrees
- B. 98 degrees
- C. 108 degrees
- D. 278 degrees

Question 5

A tangent to a circle is always

- A. Perpendicular to the radius at the point of tangency
- B. Parallel to the radius
- C. Equal in length to the radius
- D. A chord of the circle

Question 6



A tangent is perpendicular to the radius at the point of tangency.

The radius is 5 and the tangent segment PA is 12. What is OP?

- A. 13
- B. 17
- C. 7
- D. 10

Question 7

Two tangent segments are drawn from P to a circle. One has length 9. What is the other?

- A. 18
- B. 9
- C. 4.5
- D. Cannot be determined

Question 8

A radius perpendicular to a chord of length 16 splits the chord into

- A. Two segments of length 16
- B. Two segments of length 8
- C. Two unequal segments
- D. Segments of length 4

Question 9

Two inscribed angles intercept the same arc. One is 37 degrees. The other is

- A. 74 degrees
- B. 18.5 degrees
- C. 143 degrees
- D. 37 degrees

Question 10

The ratio of a circle's circumference to its diameter is the same for every circle because

- A. All circles have the same radius
- B. The diameter is always 1
- C. All circles are similar
- D. Circles are congruent

Answers

1. **A** – A central angle equals its intercepted arc. Half would be the inscribed angle.
2. **C** – An inscribed angle is half of its arc: $110/2 = 55$.
3. **D** – An angle inscribed in a semicircle intercepts 180 degrees, so it is 90.
4. **B** – Opposite angles are supplementary: $180 - 82 = 98$.
5. **A** – The tangent meets the radius at a right angle.
6. **A** – OP is the hypotenuse of a 5-12-13 right triangle. Adding $5 + 12$ gives 17.
7. **B** – Tangent segments from one outside point are congruent.
8. **B** – A radius perpendicular to a chord bisects it.
9. **D** – Inscribed angles on the same arc are congruent.
10. **C** – A dilation maps any circle onto any other, so the ratio is constant (π).

Remember

- Central angle = intercepted arc; inscribed angle = half the arc.
- An angle inscribed in a semicircle measures 90 degrees.
- Opposite angles of an inscribed quadrilateral are supplementary.
- A tangent is perpendicular to the radius at the point of tangency.
- Tangent segments from one outside point are congruent.