

Geometry - Circles: Angles, Chords and Tangents - Test

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

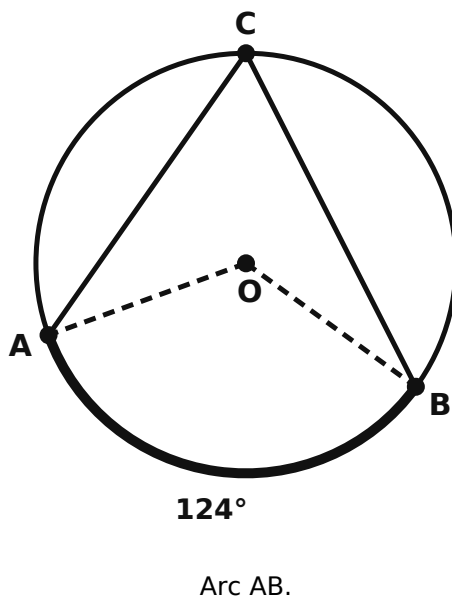
Name: _____ Class: _____ Date: ____/____/____

This 45-minute test checks angle relationships in circles. It has 9 questions worth 20 points in total. Show every step of the work, label diagrams, and include units where they apply. Calculators are allowed unless the teacher says otherwise.

About this test

- Grade: Geometry
- Chapter: Circles: Angles, Chords and Tangents
- Standards: G-C.A.1, G-C.A.2, G-C.A.3, G-C.A.4
- Time: 45 minutes
- Total: 20 points

Question 1 - Central and inscribed [2 pts]

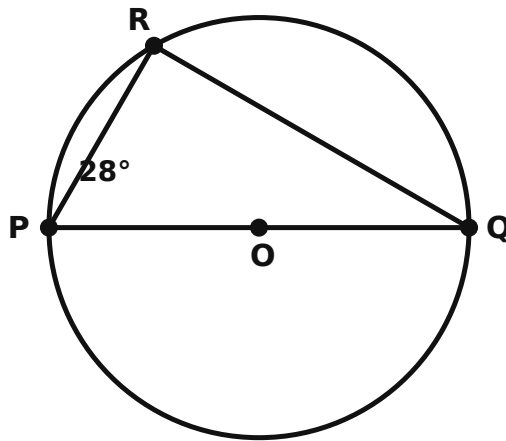


Find the measure of the central angle AOB and of the inscribed angle ACB.

Question 2 - Algebra with arcs [2 pts]

A central angle measures $(7x-8)^\circ$ and an inscribed angle on the same arc measures $(3x+2)^\circ$. Find x and the arc.

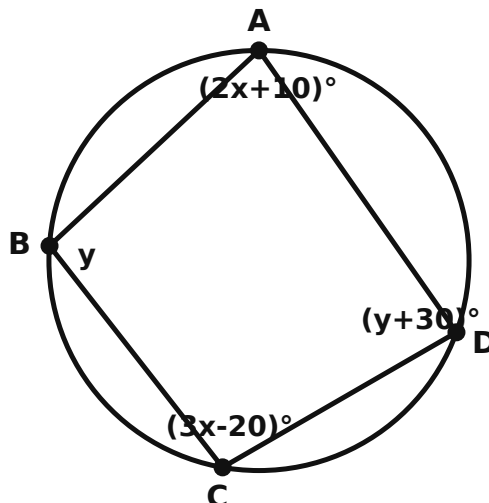
Question 3 - Semicircle [3 pts]



PQ is a diameter.

- Find $m\angle PRQ$. (1 point)
- Find $m\angle Q$. (1 point)
- Find the measure of arc PR (the arc not containing Q). (1 point)

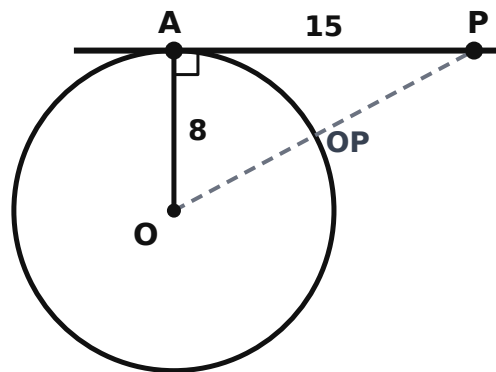
Question 4 - Inscribed quadrilateral [2 pts]



Quadrilateral ABCD is inscribed.

Find x , then find the measures of angle A and angle C.

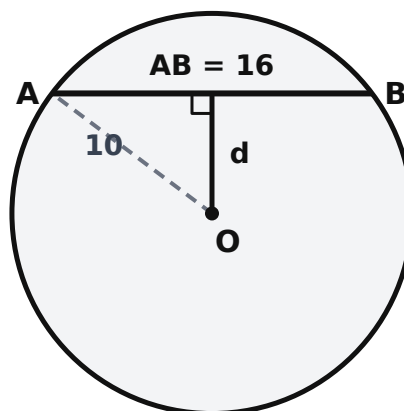
Question 5 - Tangent [3 pts]



PA is tangent at A.

- What is $m\angle OAP$? Explain. (1 point)
- Find OP. (1 point)
- A second tangent PB is drawn from P. Find PB. (1 point)

Question 6 - Chord distance [2 pts]



Chord AB = 16.

Find the distance d from the center of the circle to the chord (the radius is 10).

Question 7 - Triangle circles [2 pts]

A right triangle has legs 5 and 12. Find the radius of its circumscribed circle and of its inscribed circle (inradius is $\frac{a+b-c}{2}$).

Question 8 - Similar circles [2 pts]

Circle P has radius 4 and circle Q has radius 10. Describe a similarity transformation that maps P to Q, and give the scale factor and the ratio of their areas.

Question 9 - Tangent-chord angle [2 pts]

A tangent and a chord meet at a point on a circle and form an angle of 48° . Find the measure of the intercepted arc. Then find the measure of an inscribed angle on that arc.