

Exploring Inscribed Angles

Part 1: Exploring Inscribe Angles

1. Draw central angle $\angle AOB$ and measure it with a protractor. $m\angle AOB =$ _____

What is the measure of the intercepted arc \widehat{AB} ? $m\widehat{AB} =$ _____

2. Now draw 4 inscribed angles with vertices on the **major arc \widehat{AB}** , and endpoints at A and B

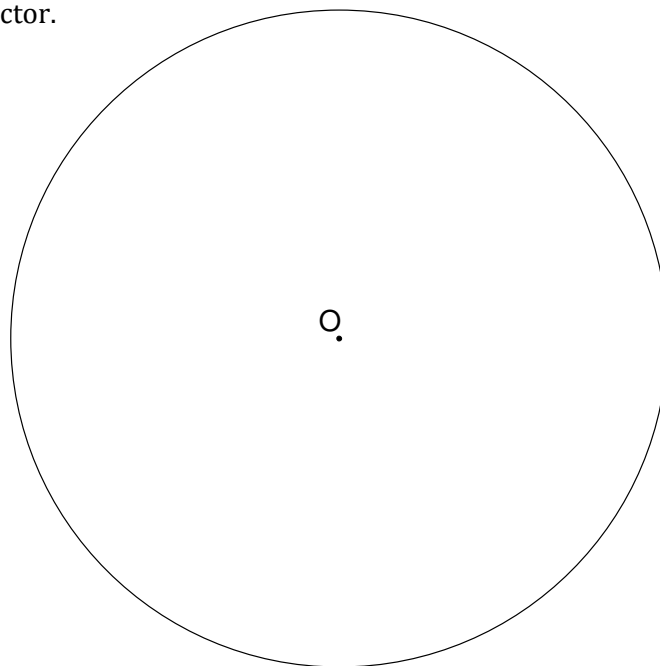
Measure these inscribed angles with a protractor.

What are the measurements of these inscribed angles?

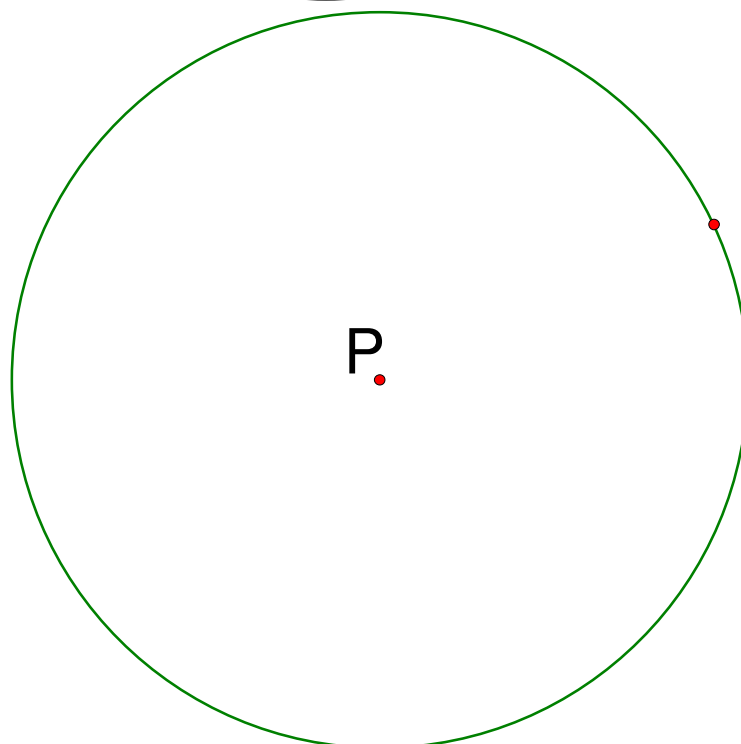
Inscribed Angle Theorem:

The measure of an inscribed angle

is _____ the measure of the intercepted arc.



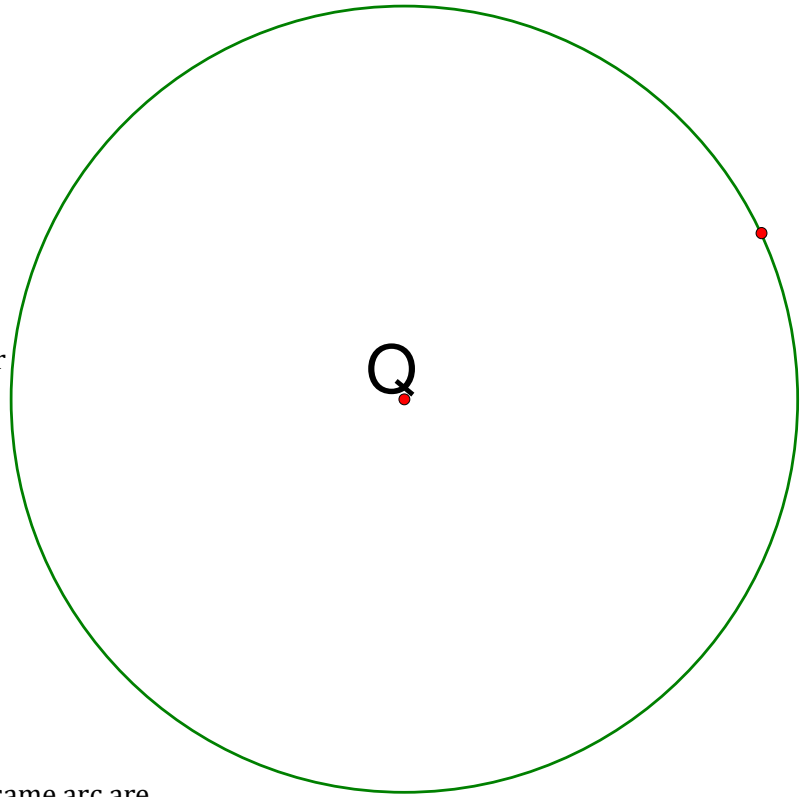
3. Draw diameter \overline{AB} on circle P .
4. Inscribe two angles with endpoints at A and B .
5. Measure these angles with a protractor. What is their measure?



6. Inscribe a quadrilateral in circle Q .
(All endpoints should be on the circle.)

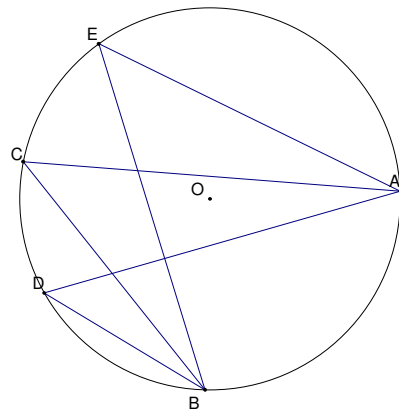
7. Measure all four angles with a protractor

What do you notice about the opposite angles in the quadrilateral?

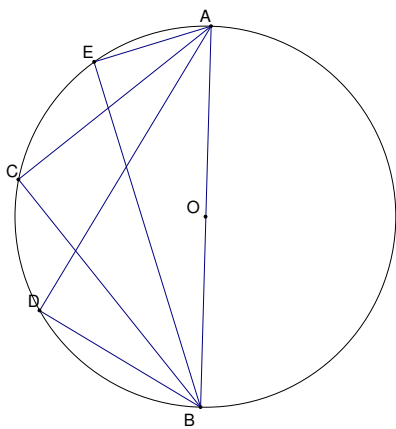


Inscribed Angle Corollaries:

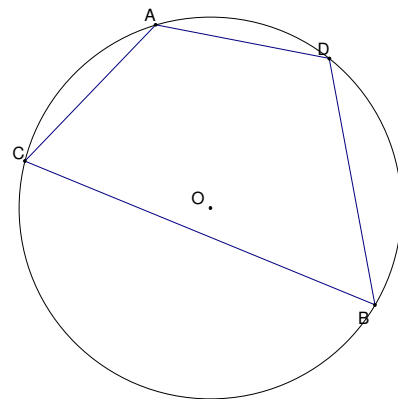
8. Two inscribed angles that intercept the same arc are _____



9. An angle inscribed in a semicircle is a _____



10. The opposite angles of a quadrilateral inscribed in a circle are _____



Part 2: Chord-Tangent Angles

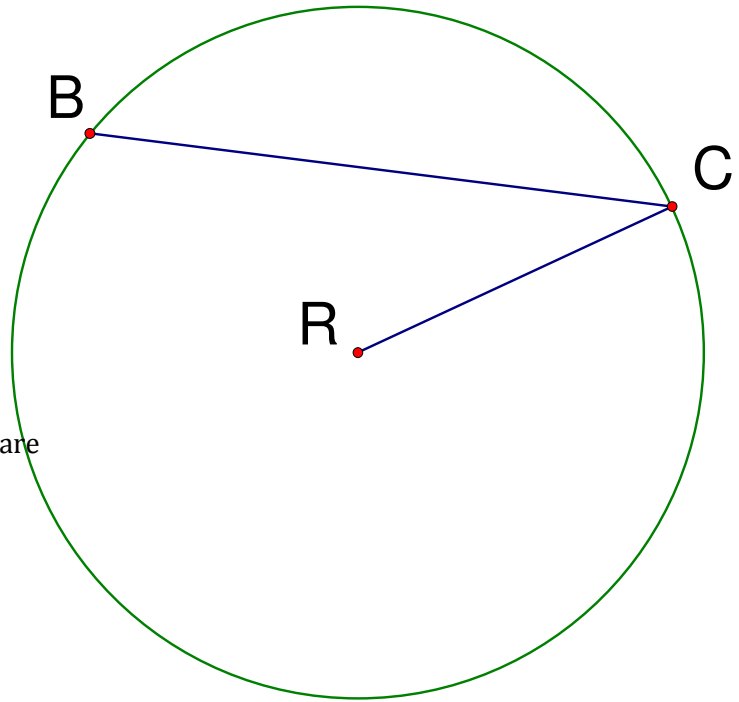
1. Use your protractor to draw a tangent line through point C .

2. Measure the acute angle between the tangent line and \overline{BC} .

3. Measure $\angle BRC$.

4. What is the measure of arc \widehat{BC} ?

5. How does the angle measure compare to the arc measure?



Theorem: The measure of an angle formed by a tangent and a chord is _____ the measure of the intercepted arc.

