Name	
Analyt	ic Geometry for College Graduates

Unit 3: Circles & Volume | Topic: Circles: Inscribed Angles & Inscribed Quadrilaterals (G.C.1, G.C.2)

Inscribed Angles and Intercepted Arcs			
An is made by			
that SHARE an endpoint on the of a			
circle.			
Where they meet is called a			
The arc that is between the other endpoints of the chord			
is called the			
Sample : In the diagram at the right, chords \overline{AB} and \overline{BC} meet at vertex to form $\angle ABC$ and			
$\underline{\qquad}\widehat{AC}.$			

1. Circle each diagram that shows circles with chords. If the circle does not contain a chord, indicate what is shown.



2. Circle the vertex of each angle.



3. Trace the intercepted arc in each diagram.



Measures of Inscribed Angles and Intercepted Arcs		
The measure of an inscribed angle is the		
measure of its intercepted arcs.		
$m \angle B = \frac{1}{2} m \widehat{AC}$		
Sample : In the diagram at the right, $m \angle B = \frac{1}{2}()$		

Find the value of x.



UNIT 3 • CIRCLES AND VOLUME Lesson 1: Introducing Circles

Use your knowledge of angles to complete the problems that follow.

5. Find the values of *x* and *y*.



6. Find the value of *x* and the measure of \overrightarrow{AB} .



7. Find the values of *x*, *y*, and *z*.



continued

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8. Find $m \angle C$ and $m \angle D$.



9. Find $m \angle B$ and $m \angle C$.



10. Find \overrightarrow{mBC} and \overrightarrow{mCA} .



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Reteaching (continued)

Inscribed Angles

Exercises

In Exercises 1–9, find the value of each variable.



Find the value of each variable. Lines that appear to be tangent are tangent.



Points A, B, and D lie on $\odot C$. $m \angle ACB = 40$. $m \widehat{AB} < m \widehat{AD}$. Find each measure.

13.
$$\widehat{mAB}$$
 14. $m \angle ADB$ **15.** $m \angle BAC$

- **16.** A student inscribes a triangle inside a circle. The triangle divides the circle into arcs with the following measures: 46°, 102°, and 212°. What are the measures of the angles of the triangle?
- **17.** A student inscribes *NOPQ* inside $\bigcirc Y$. The measure of $m \angle N = 68$ and $m \angle O = 94$. Find the measures of the other angles of the quadrilateral.