

Name: _____

Date: _____

Circles: Review

1. Though different sizes, all circles have the same shape. This means that all circles are _____.

2. A segment with endpoints that lie on the circle is called a _____.

3. A line connecting the center to the circumference of the circle is a _____.

4. An inscribed angle is made up of 2 (a) tangents, (b) vertices, (c) radii, (d) chords.

5. Complete the proof:

Given: $\angle ABC$ is inscribed in circle Z

Prove: $m\angle ABC$ is half the measure of \widehat{AC} .

Step 1: Draw BZ.

Step 2: Use _____

Step 3: Since \overline{ZA} and \overline{ZB} are radii, $\overline{ZA} \cong \overline{ZB}$, then $\triangle AZB$ is isosceles.

Step 4: Substitution

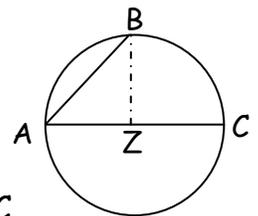
$$m\widehat{AC} = m\angle AZC;$$

$$m\angle AZC = m\angle ABZ + m\angle BAZ.$$

$$\text{Thus, } m\angle ABZ = m\angle BAZ$$

$$m\widehat{AC} = 2m\angle ABZ \text{ or } 2m\angle ABC.$$

$$\text{Thus, } \frac{1}{2} m\widehat{AC} = m\angle ABC.$$



6. Provide a brief description of the Tangent-Radius Theorem.

7-10. Identify the arc length and sector area of the following circles. Then, find the sector measurement in radians.

7. $r = 6$
 $m = 60$

8. $r = 15$
 $m = 12$

9. $r = 7$
 $m = 60$

10. $r = 28$
 $m = 180$

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Answer Key

Circles: Review

1. similar
2. chord
3. radius
4. d
5. Exterior angle theorem
6. The radius of a circle is perpendicular to the tangent where the radius intersects the circle.
7. $L = 6.28$; $A = 18.84$; $\pi/3$
8. $L = 3.14$; $A = 23.55$; $2\pi/3$
9. $L = 7.33$; $A = 25.64$; $\pi/3$
10. $L = 87.92$; $A = 1230.88$; π