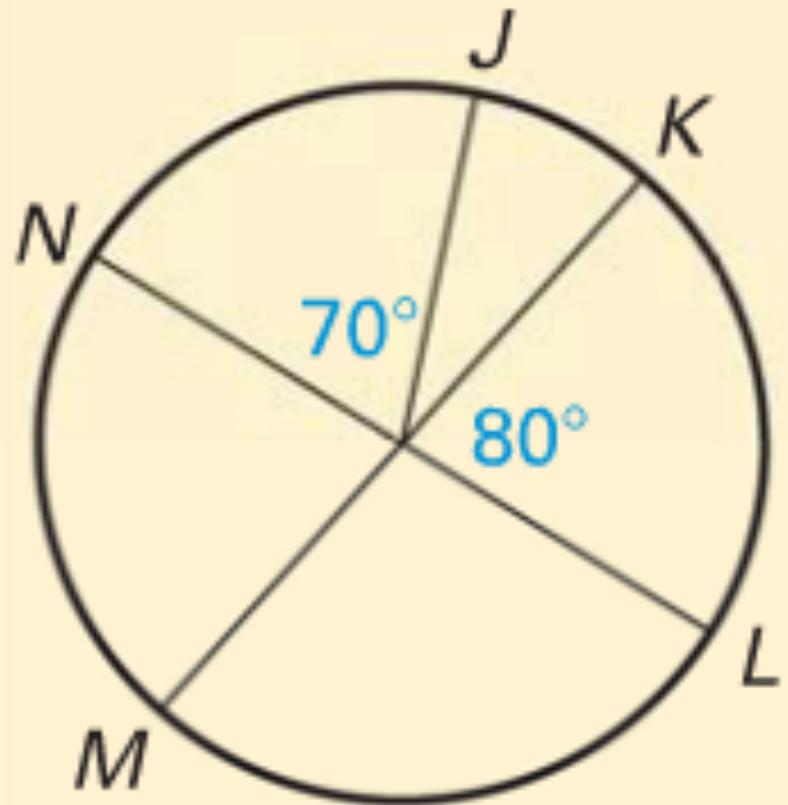


Warm up



- a. $m\widehat{JK}$
- b. $m\widehat{NM}$
- c. $m\widehat{LM}$
- d. $m\widehat{KNM}$
- e. $m\widehat{NK}$
- f. $m\widehat{LJM}$



Day 25 – Inscribed Angles & Inscribed Quadrilaterals



**ANALYTIC GEOMETRY FOR COLLEGE
GRADUATES**

#DOYOUHAVEGRIT

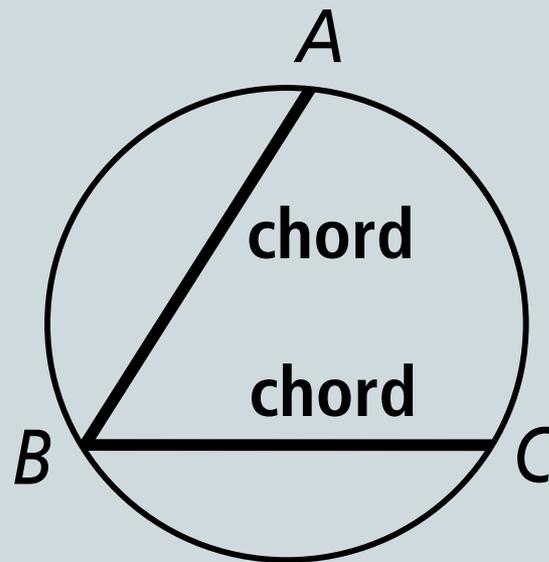
Inscribed Angles and Intercepted Arcs



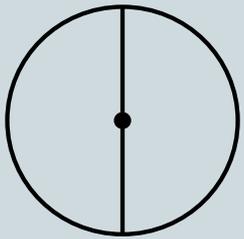
- An **INSCRIBED ANGLE** is made by **TWO CHORDS** that SHARE an endpoint on the **PERIMETER** of a circle.
- Where they meet is a called a **VERTEX**.
- The arc that is between the other endpoints of the chord is called the **INTERCEPTED ARC**.

Inscribed Angles and Intercepted Arcs

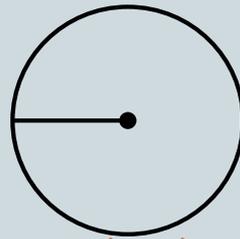
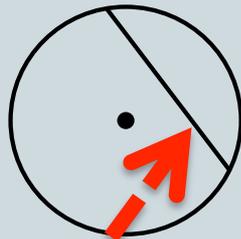
In the diagram at the right,
chords AB and BC meet at
vertex **B** to form
INSCRIBED $\angle ABC$
and **INTERCEPTED** AC .



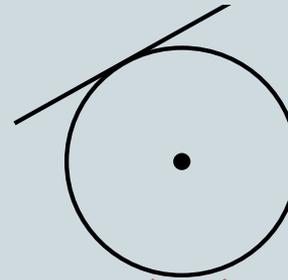
Where are the Chords?



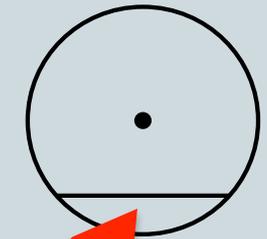
Diameter:
largest chord



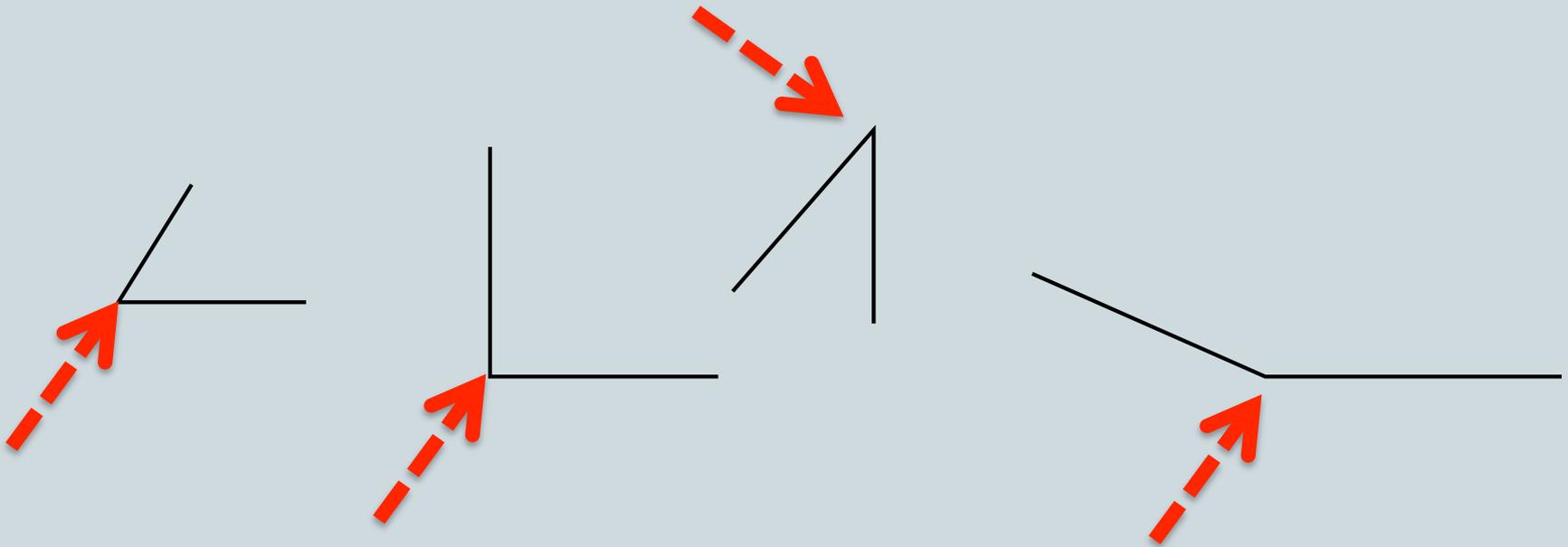
Radius: center to
a point on the
circumference



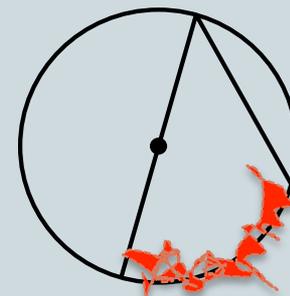
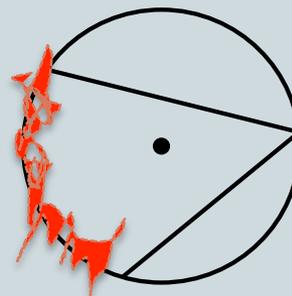
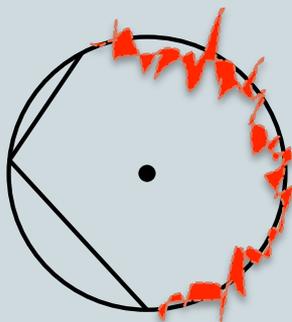
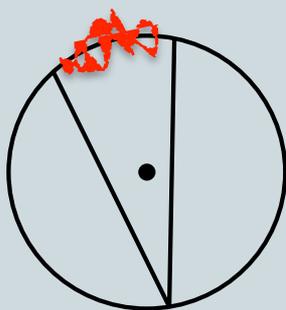
Tangent line:
touches circle at
ONE point



Where are the Vertices?



Intercepted Arcs



Measures of Inscribed Angles & Intercepted Arcs

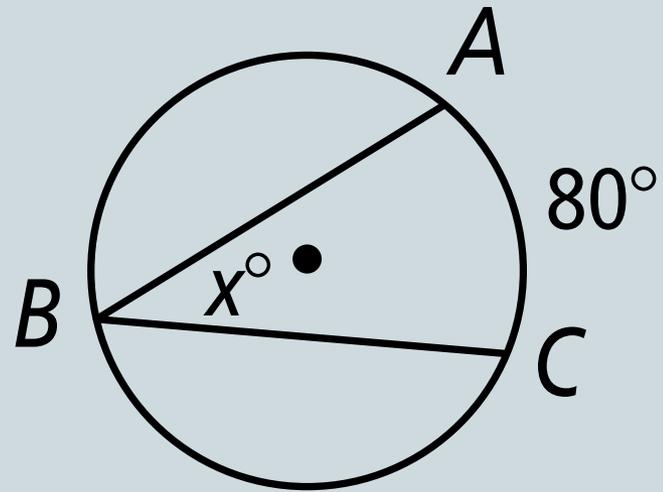


- The measure of an inscribed angle is HALF the measure of its intercepted arcs.

Measures of Inscribed Angles & Intercepted Arcs

- Sample: In the diagram at the right,

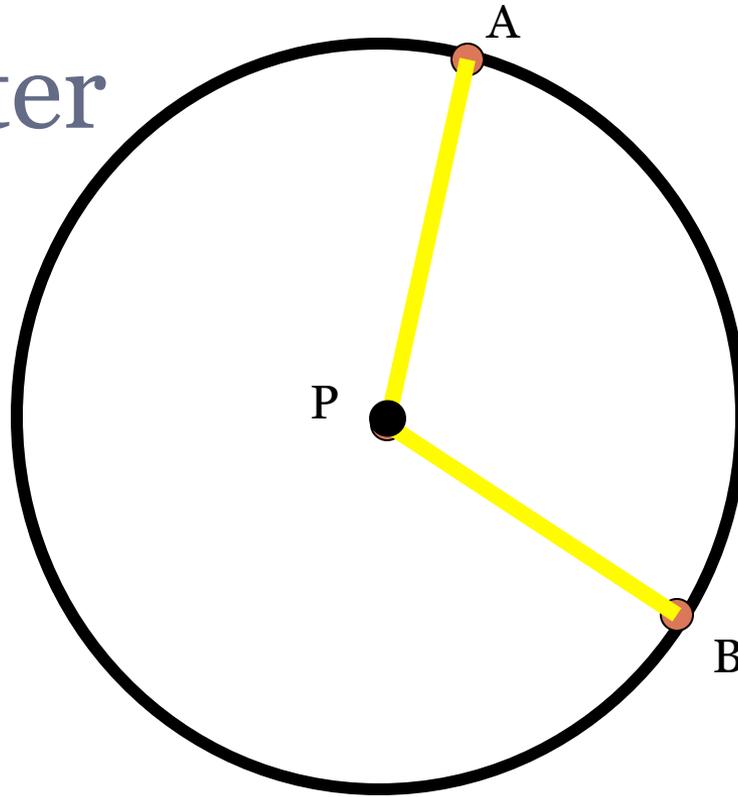
$$m\angle B = \frac{1}{2}(\mathbf{80}) = \mathbf{40}$$



Case 1: Central Angle: Vertex

is

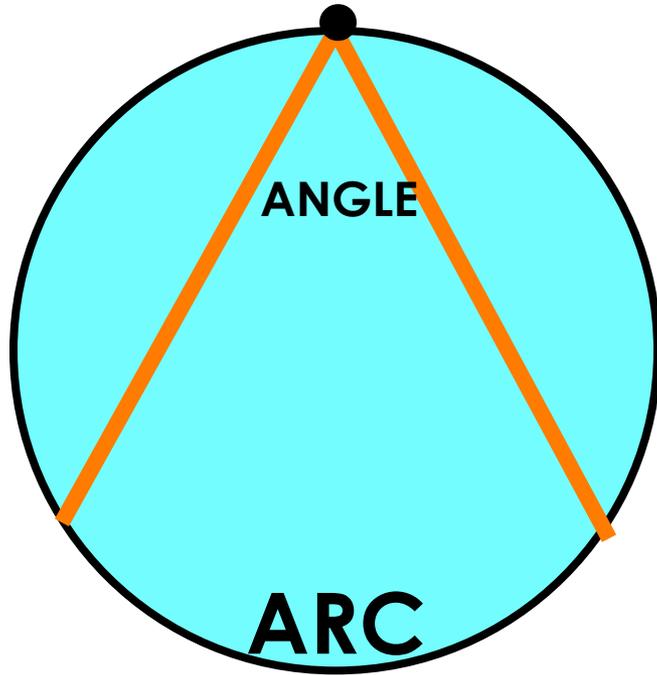
AT the center



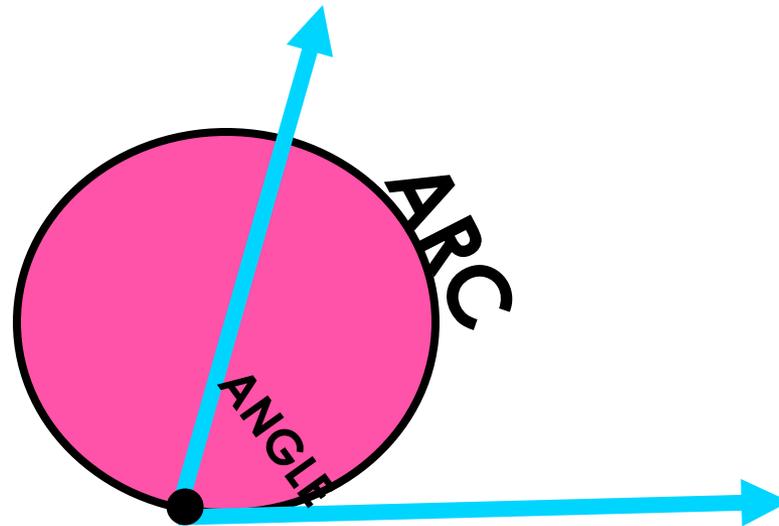
Central ANGLE = ARC

Case II: Inscribed Angle:

Vertex is ON circle

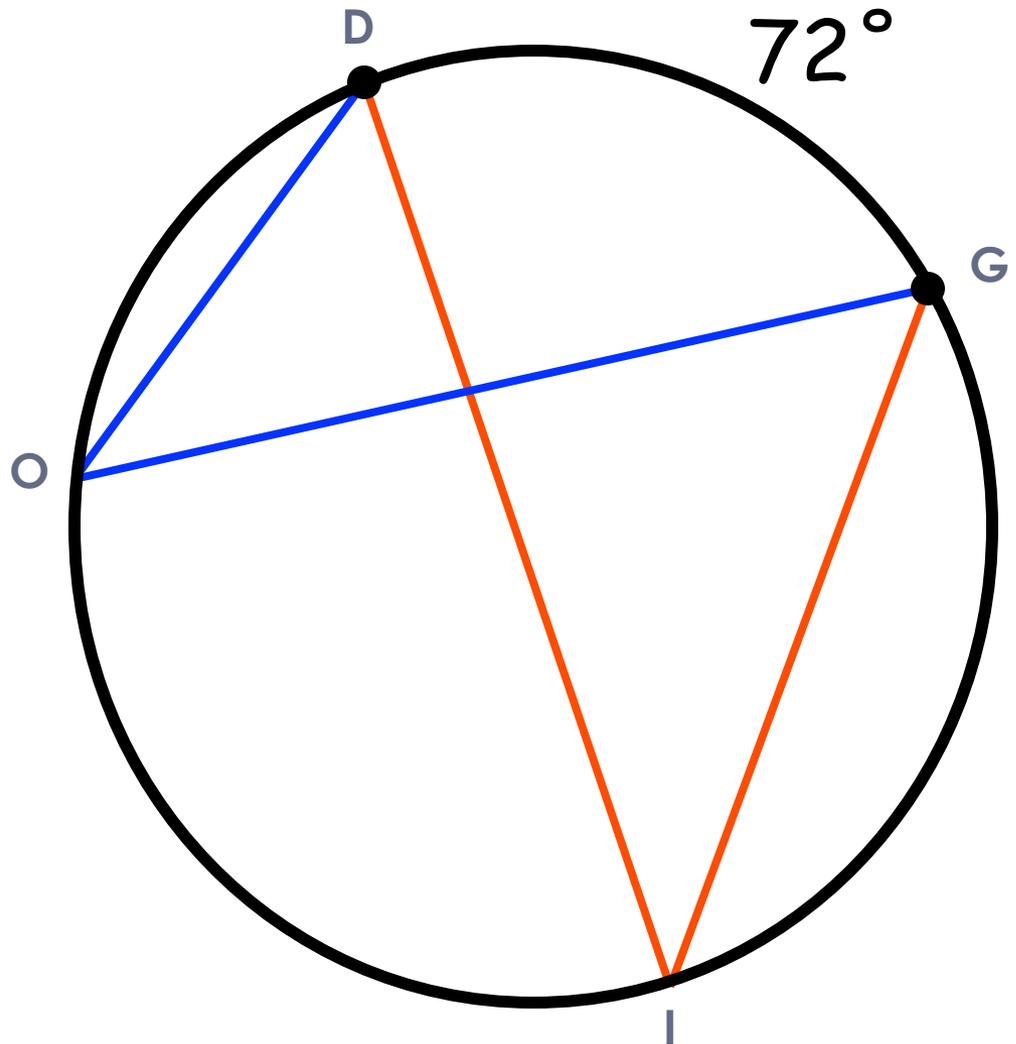


$$\text{ANGLE} = \frac{\text{ARC}}{2}$$

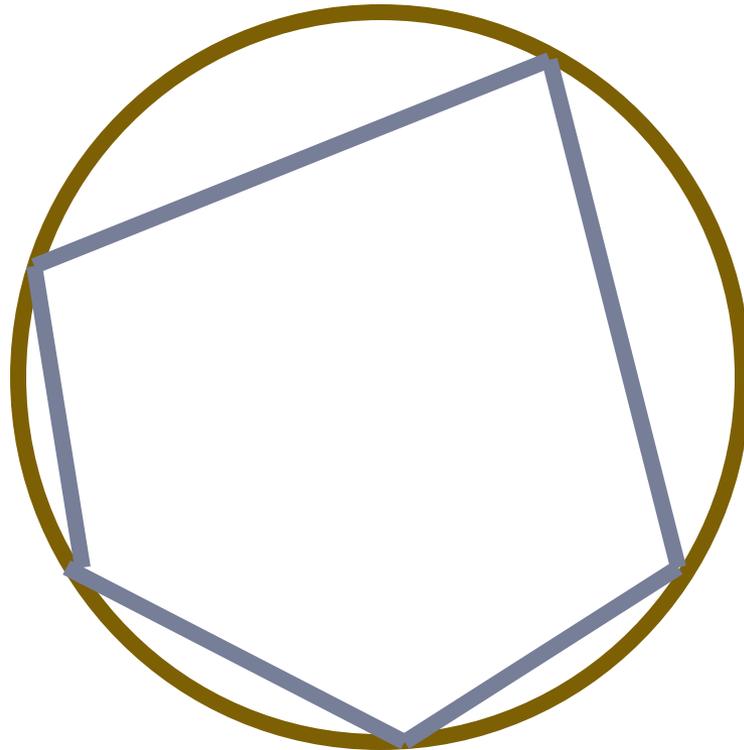


Find the measure of  DOG and  DIG

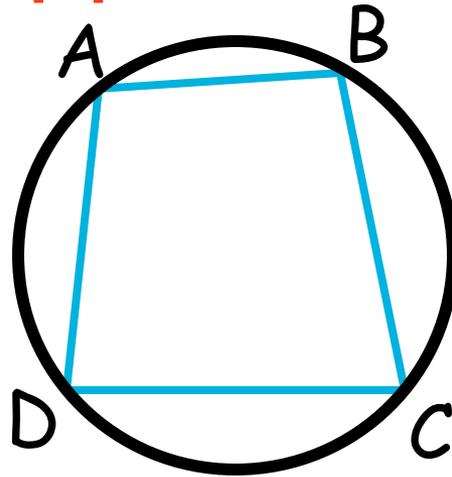
If two inscribed angles intercept the same arc, then they are congruent.



If all the vertices of a polygon touch the edge of the circle, the polygon is **INSCRIBED** and the circle is **CIRCUMSCRIBED**.



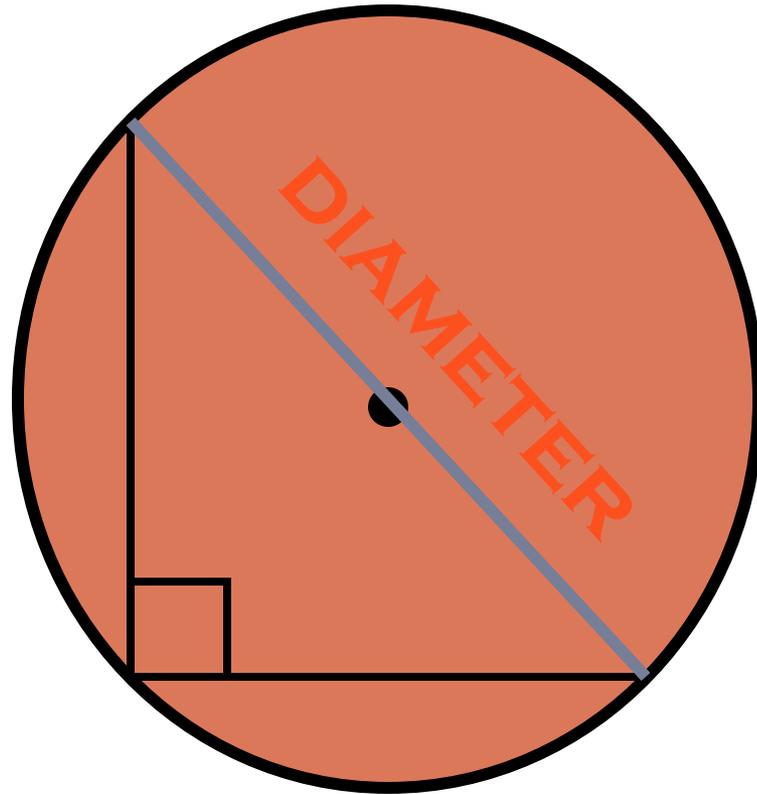
a quadrilateral inscribed in a circle: opposite angles are
supplementary.



$$m\angle A + m\angle C = 180$$

$$m\angle B + m\angle D = 180$$

If a right triangle is inscribed in a circle then the *hypotenuse* is the diameter of the circle.

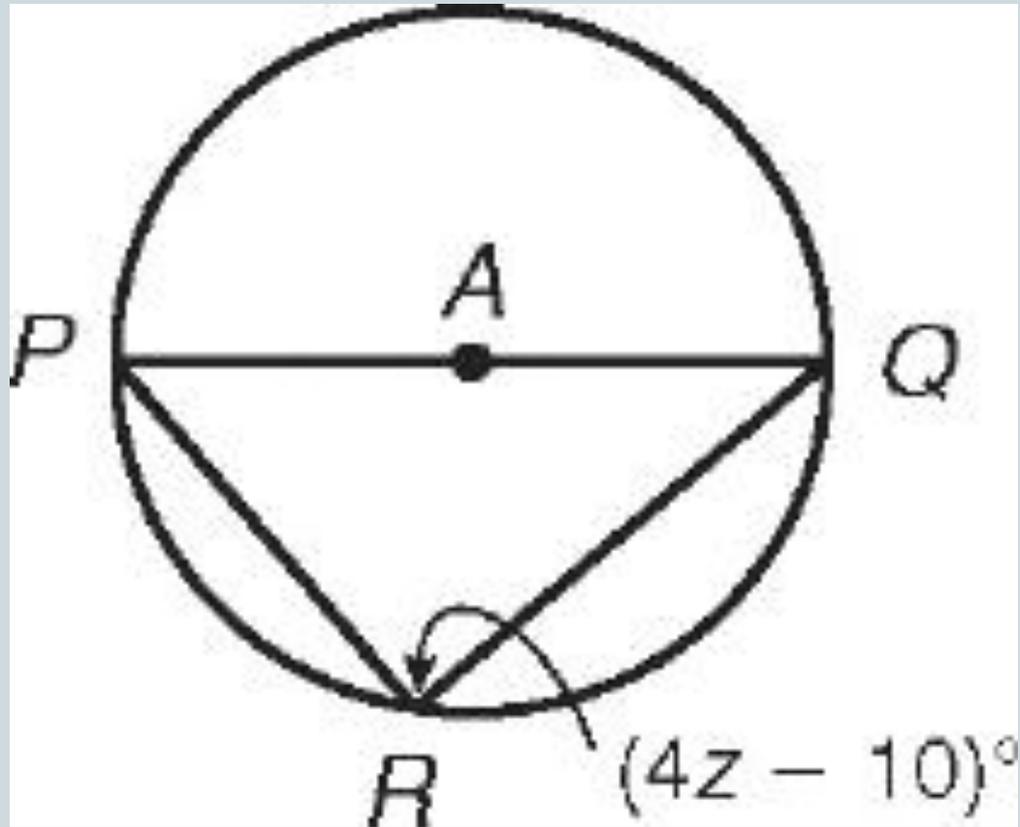


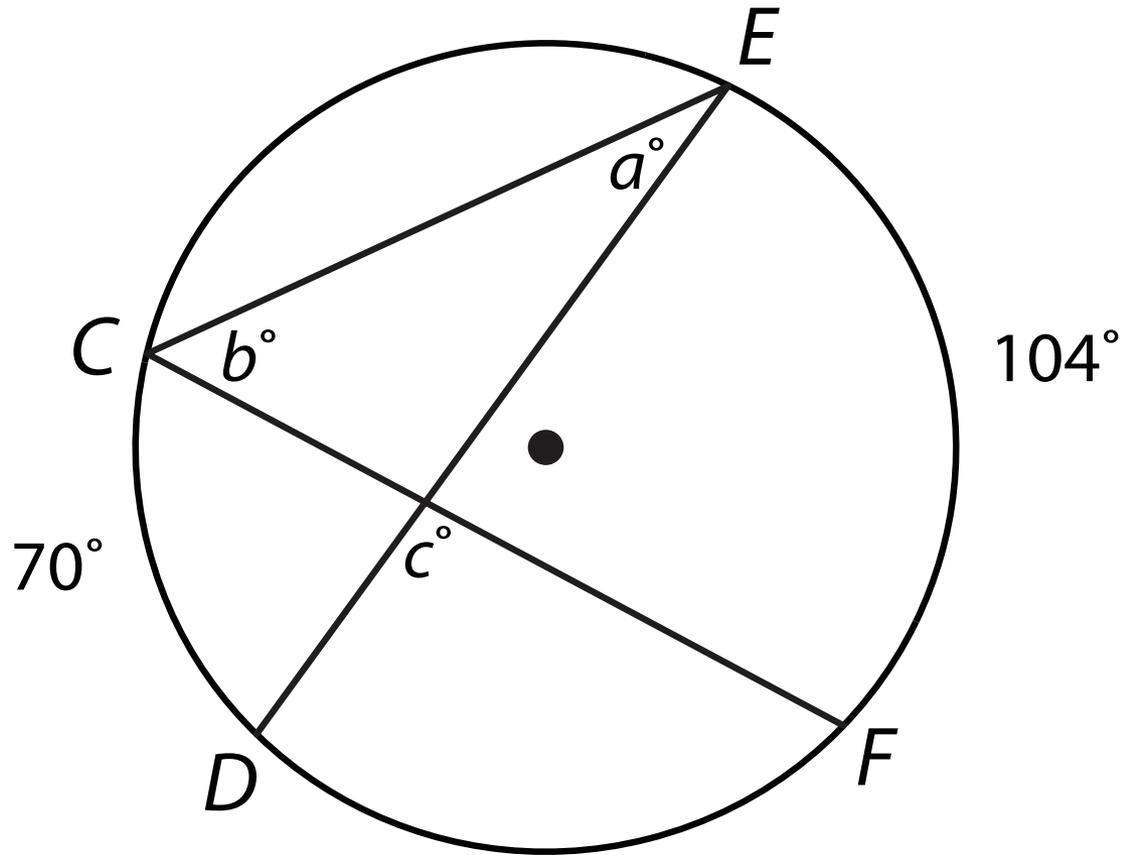
Silent, Independent Practice

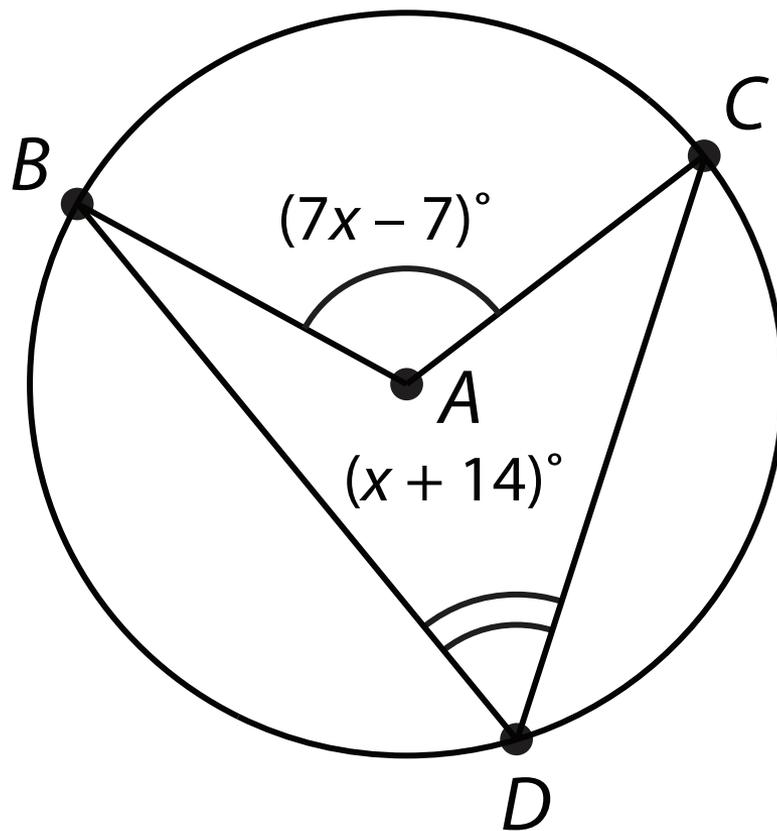


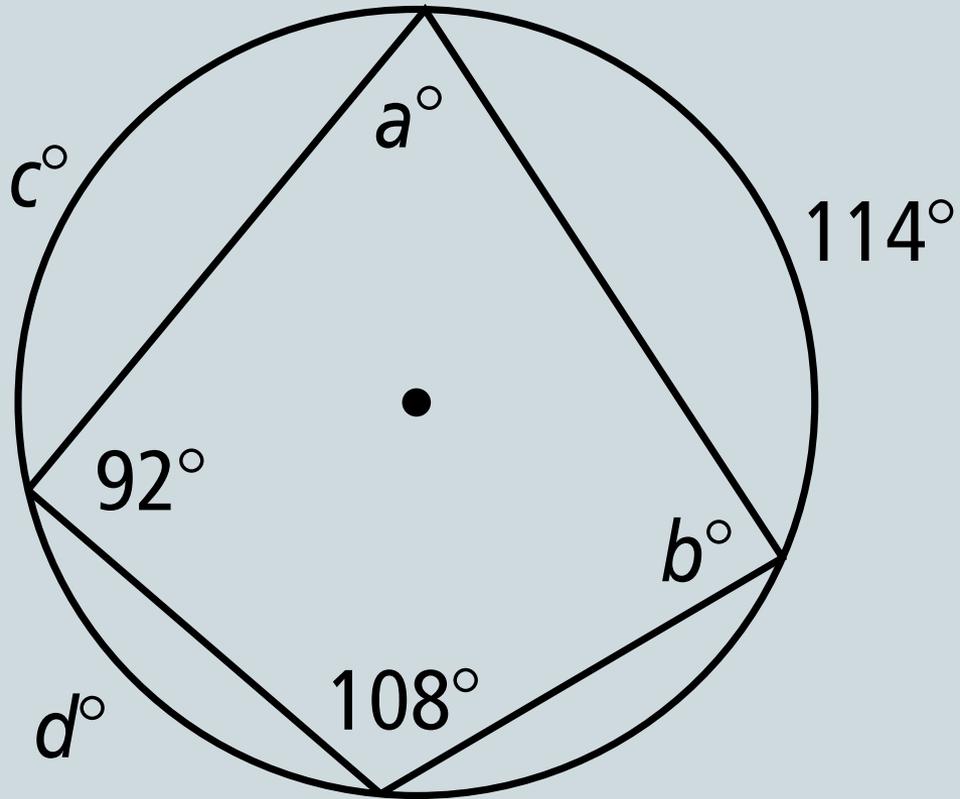
FIND THE VALUE OF X ON #4-6.

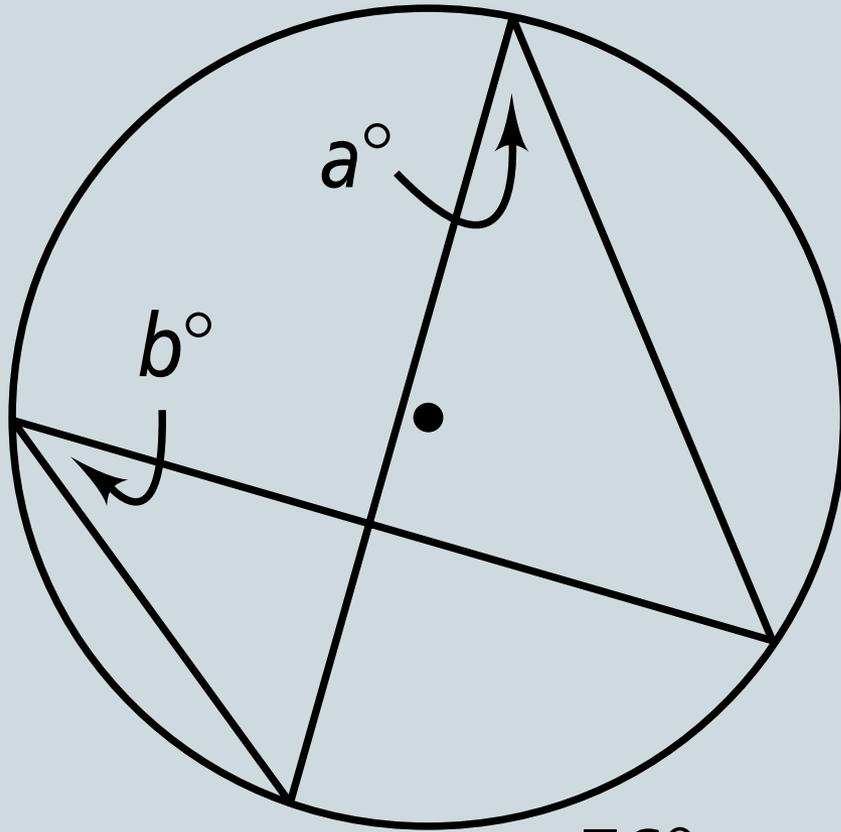
Example #7



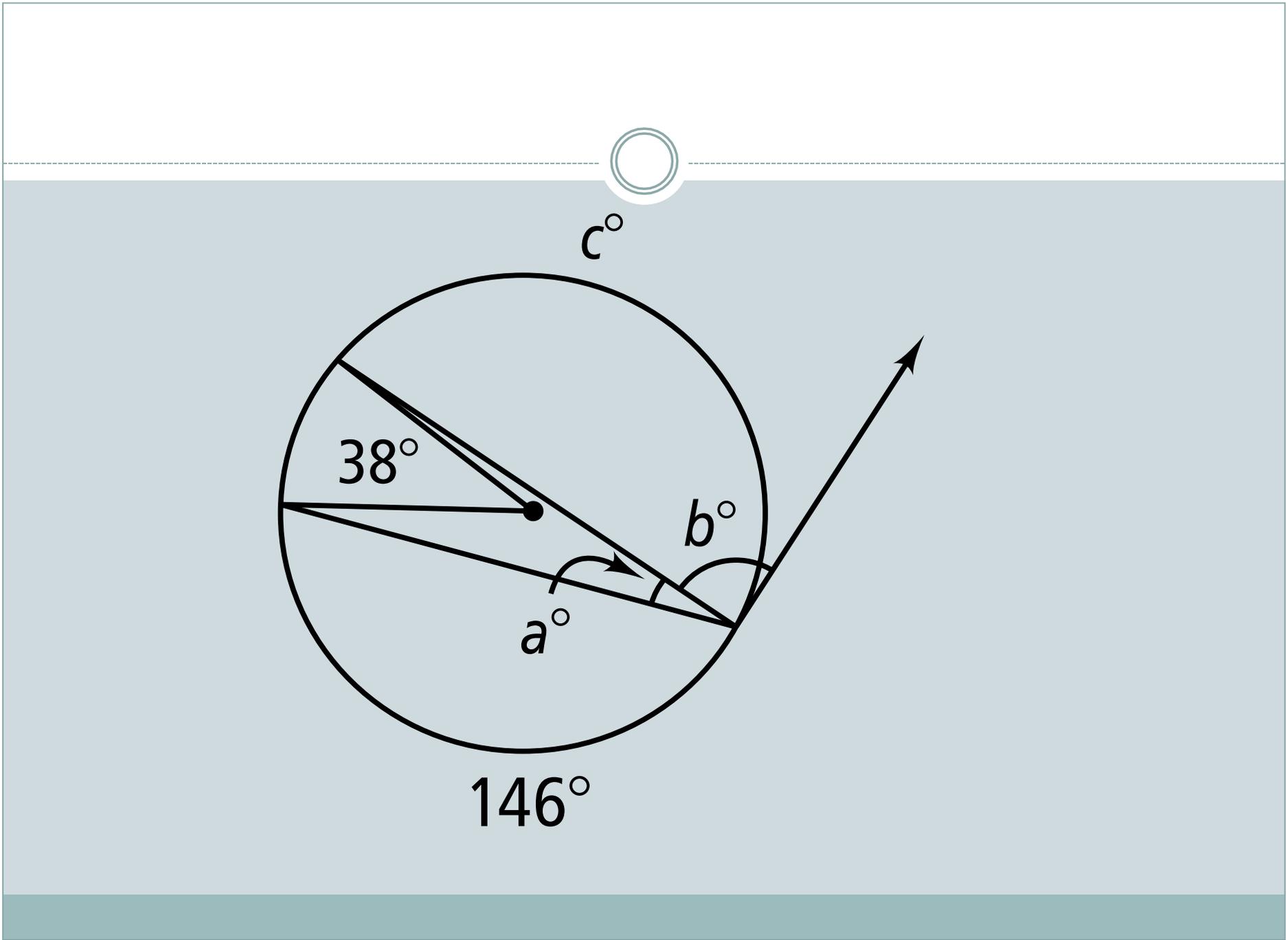






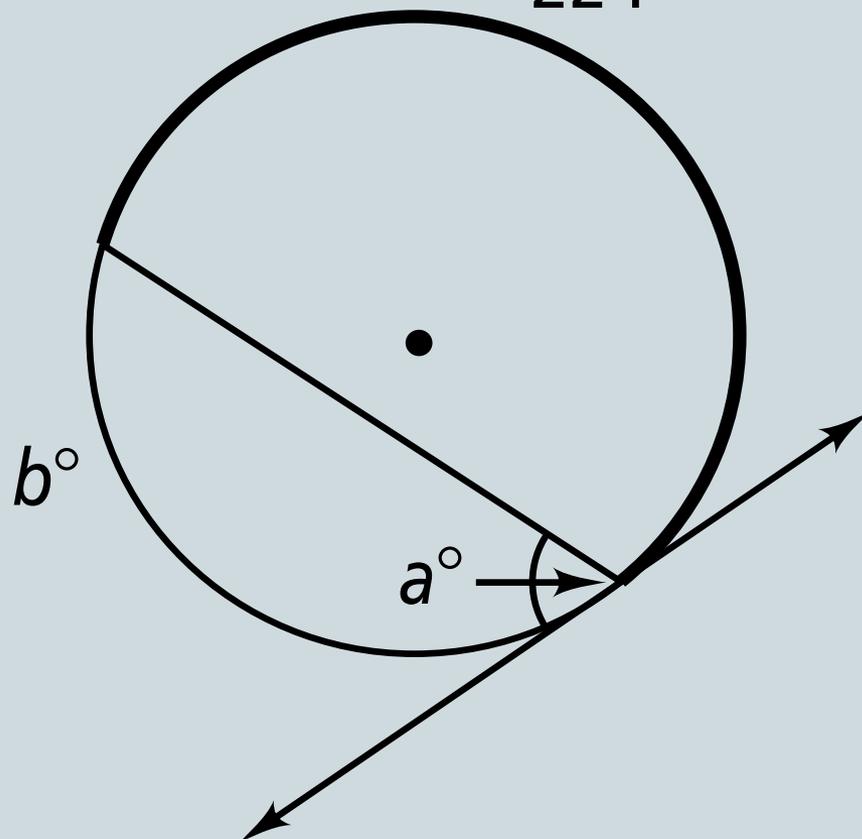


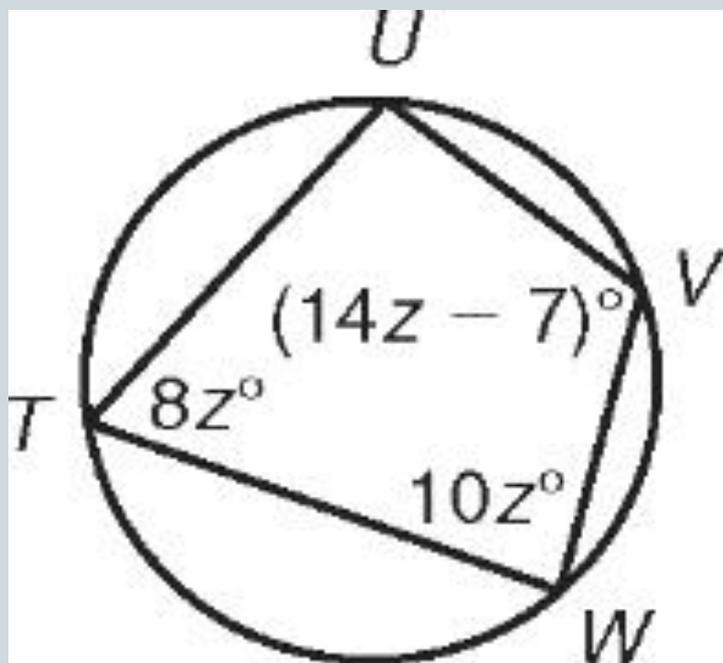
76°





224°



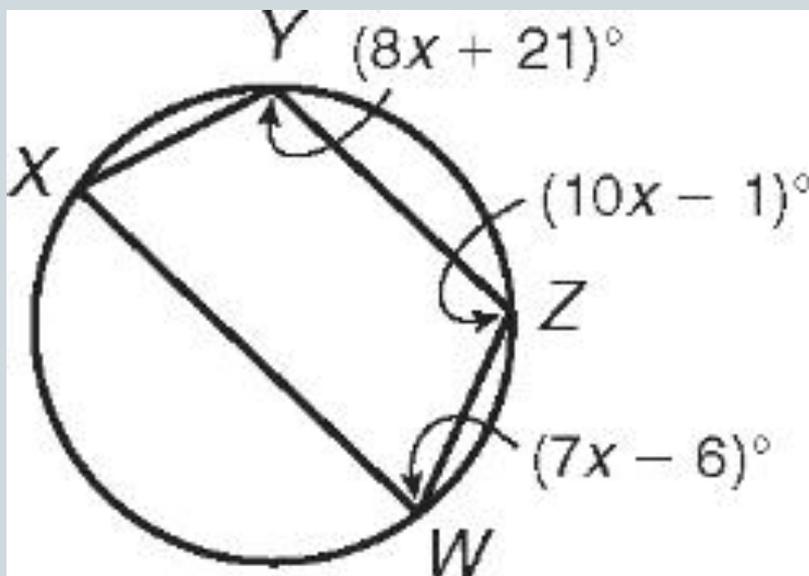


$m\angle T =$ _____

$m\angle U =$ _____

$m\angle V =$ _____

$m\angle W =$ _____

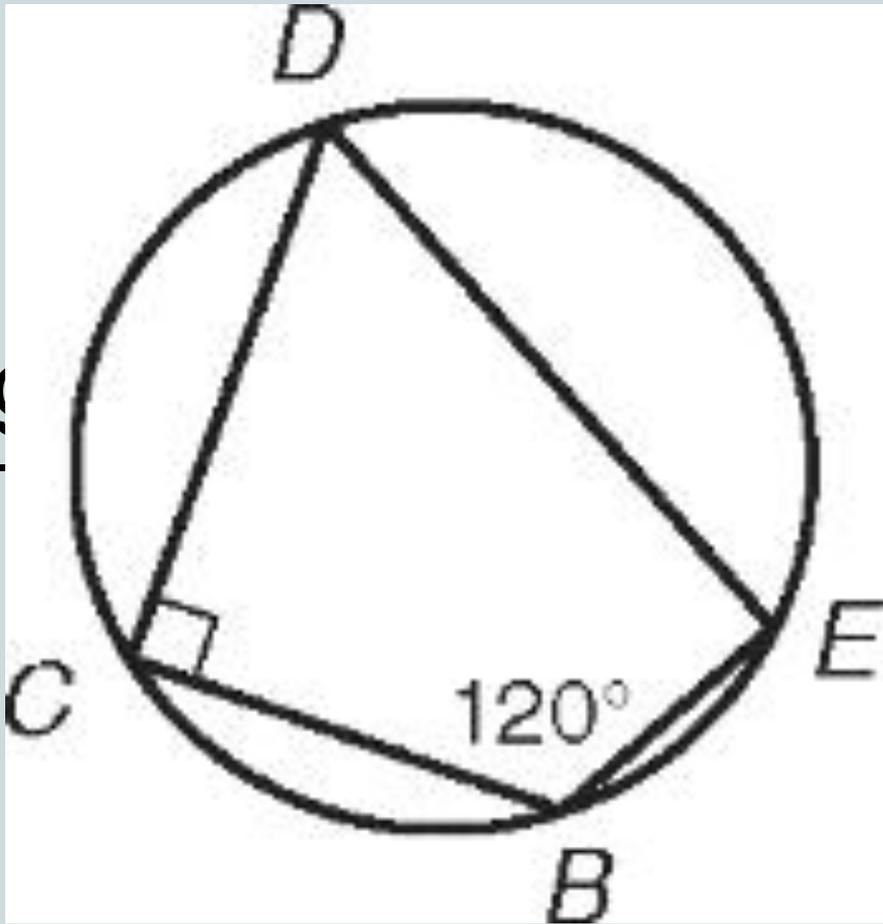


$$m\angle X = \underline{\hspace{2cm}}$$

$$m\angle Y = \underline{\hspace{2cm}}$$

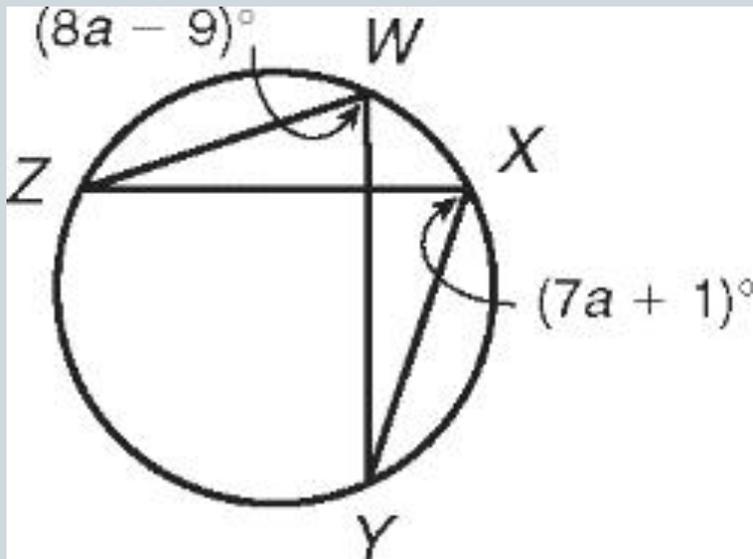
$$m\angle Z = \underline{\hspace{2cm}}$$

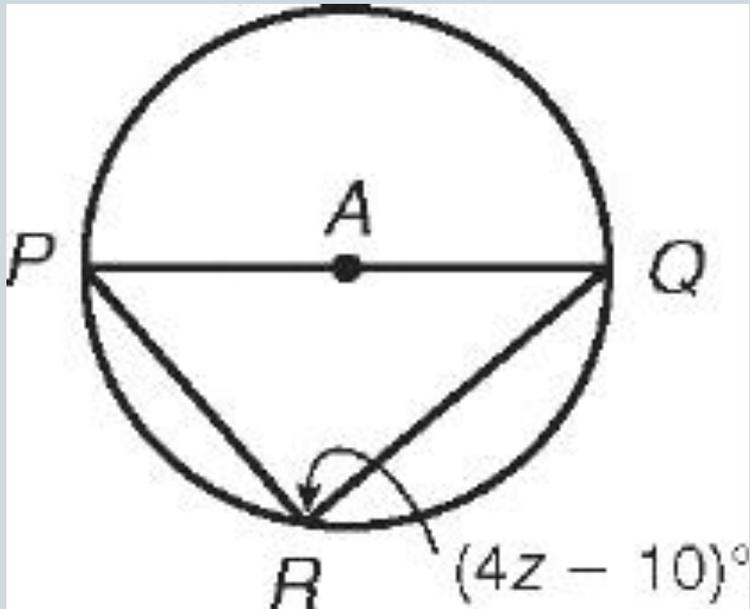
$$m\angle W = \underline{\hspace{2cm}}$$



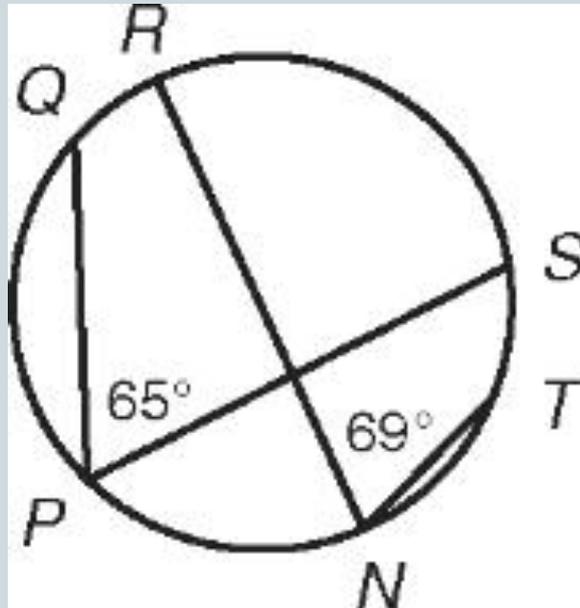


$$m\angle ZWY = \underline{\hspace{2cm}}$$





$$Z = \underline{\hspace{10em}}$$



$$m\angle QRS = \underline{\hspace{2cm}}$$

$$m\angle TSR = \underline{\hspace{2cm}}$$