CORNELL NOTES

TOPIC/OBJECTIVE: Circles Part 2

CONTENT/CLASS: Geometry

NAME:

CLASS/PERIOD: 5

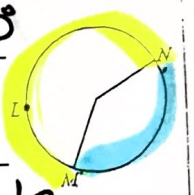
DATE: 3/10/16

ESSENTIAL QUESTION: What is the relationship between angles in a circle and the arc measure.

QUESTIONS:

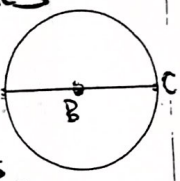
NOTES:

Major Arc - $\overset{\frown}{MLN}$ - larger portion of Circle, arc measure between 180° & 360°



Minor Arc - $\overset{\frown}{MN}$ - smaller arc, arc measure between 0° & 180°

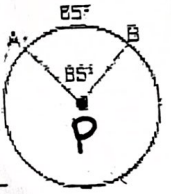
Semicircle - ½ of the circle, the diameter divides the circle



Central Angle - vertex at the center of a circle, equals arc measure central angle

Every central angle has a Corresponding/ intercepted arc

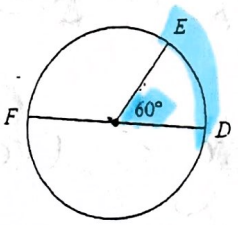
For example, in ⊙P at right, $\angle APB$ is a central angle and corresponds to $\overset{\frown}{AB}$.



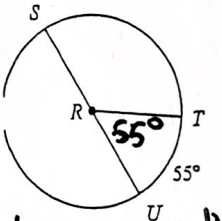
Arc measure (*different than arc length*) is equal to the corresponding central angle

Examples:

Find $m\overset{\frown}{ED}$ $m\overset{\frown}{ED} = 60°$



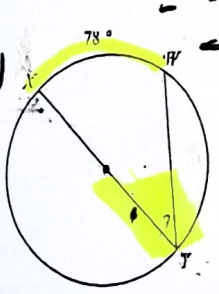
Find $m\angle TRU$ = 55°



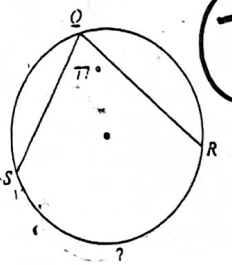
Inscribed Angle - An angle with the vertex on the circle. Its other endpoints are its intercepted Arc

Examples: inscribed Angle measure = ½ Arc measure

Find $m\angle XYW$ = $\frac{78°}{2} = 39°$



Find $m\overset{\frown}{SR}$



(77°)2 = 154°

(inscribed angle)·2 = arc measure

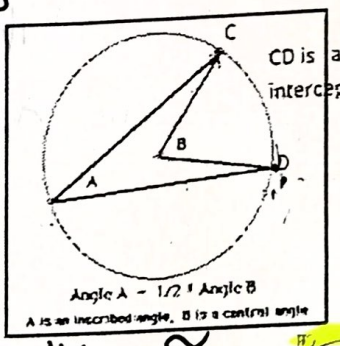
SUMMARY:

ESTIONS:

NOTES:

Corresponding/Intercepted Arc - arc with endpoints on a circle and corresponds the angle

$\angle CAD$ is an example of an inscribed angle, because its vertex, point A, lies on the circle's circumference.



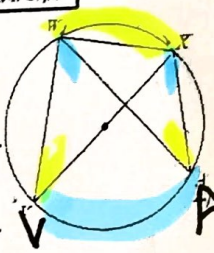
It corresponds to central angle $\angle DBC$ because they both intercept the same arc, $\overset{\frown}{CD}$.

An intercepted arc is an arc with endpoints on each side of the angle.

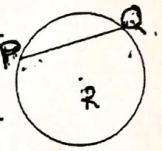
Inscribed Angles Sharing Same Arc - Inscribed angles will be $\cong$

example: $\angle WVX \cong \angle WAX$, they correspond to $\overset{\frown}{WX}$

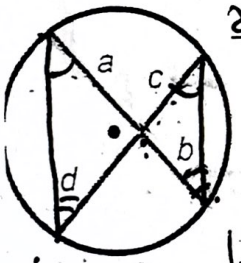
$\angle VWA \cong \angle VXA$, they correspond to $\overset{\frown}{VA}$



Chord - line segment with 2 endpoints on a circle



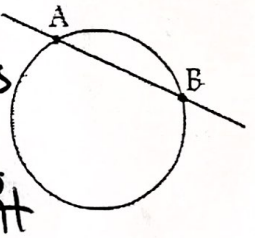
Intersecting Chords = Create similar triangles - inscribed angles with intercepted arcs



To find missing side

$\frac{a}{c} = \frac{d}{b} \rightarrow a \cdot b = c \cdot d$

Secant - a line intersecting a circle at 2 points



Tangent - a line intersecting a circle at 1 point

This creates a 90° angle with the radius

MMARY: