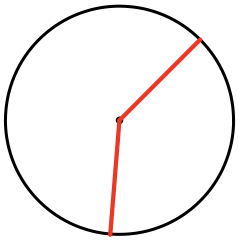
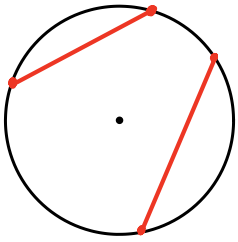
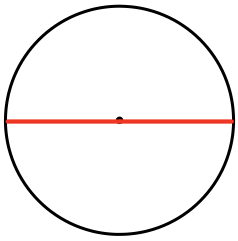
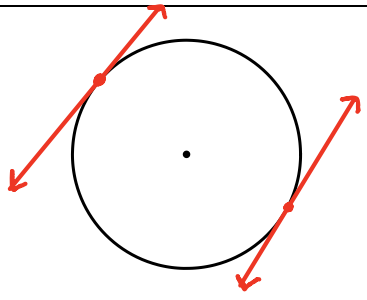
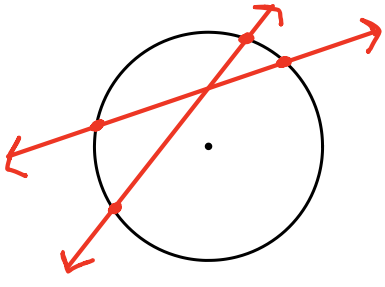
Math 3
Unit 6 Day 6 Notes – Intro to Circles
Name: Key
Date: _____

Circle Terminology

Circle: the set of all points in a plane that are equidistant from a given point in the plane, which is the center of the circle.

Segments and Lines in/on Circles

Name	Definition	Example
Radius	The segment from the center to any point on the circle.	
Chord	A segment whose endpoints are on the circle.	
Diameter	A segment that passes through the center of the circle. *(Note: A diameter is the longest chord.)*	
Tangent	A line that intersects the circle at exactly one point.	
Secant	A line that intersects the circle at exactly two points.	

1) Name an example of each of the following in the diagram of ⊙Y below:

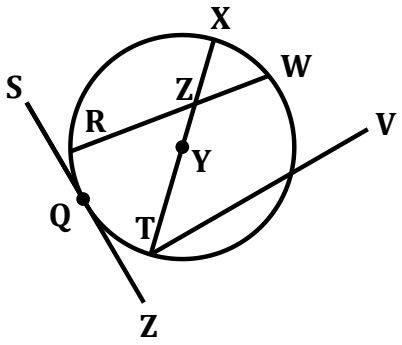
a. Radius $\overline{YX}$ $\overline{YT}$

b. Chord $\overline{RW}$ $\overline{TX}$

c. Tangent $\overleftrightarrow{SZ}$ $\overleftrightarrow{SQZ}$

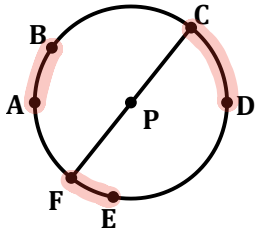
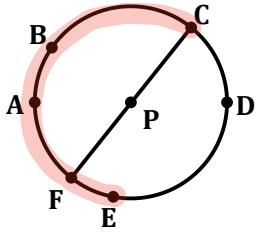
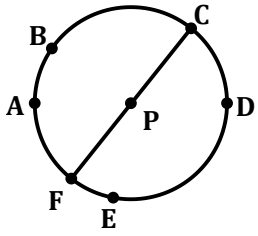
d. Diameter $\overline{TX}$

e. Secant $\overleftrightarrow{TV}$



Arcs and Angles in Circles

An **arc** is a part of a circle.
There are 3 types of arcs:

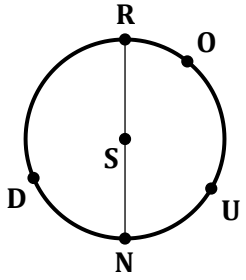
Name	Measure	Example(s)	Label
Minor Arc	Arc less than 180°		$\overset{\frown}{AB}$ $\overset{\frown}{CD}$ $\overset{\frown}{FE}$ $\overset{\frown}{AF}$ $\overset{\frown}{DE}$ $\overset{\frown}{BC}$ $\overset{\frown}{AE}$ $\overset{\frown}{CDE}$
Major Arc	Arc greater than 180°		$\overset{\frown}{CAE}$ $\overset{\frown}{CFA}$ $\overset{\frown}{BAD}$ $\overset{\frown}{FDB}$
Semicircle	Arc equal to 180°		$\overset{\frown}{AED}$ $\overset{\frown}{ACD}$ $\overset{\frown}{FEC}$ $\overset{\frown}{CBF}$

For #s 2–4, use the diagram of ⊙S to the right.

2) Name 3 minor arcs: $\overset{\frown}{RO}$, $\overset{\frown}{RU}$, $\overset{\frown}{DN}$

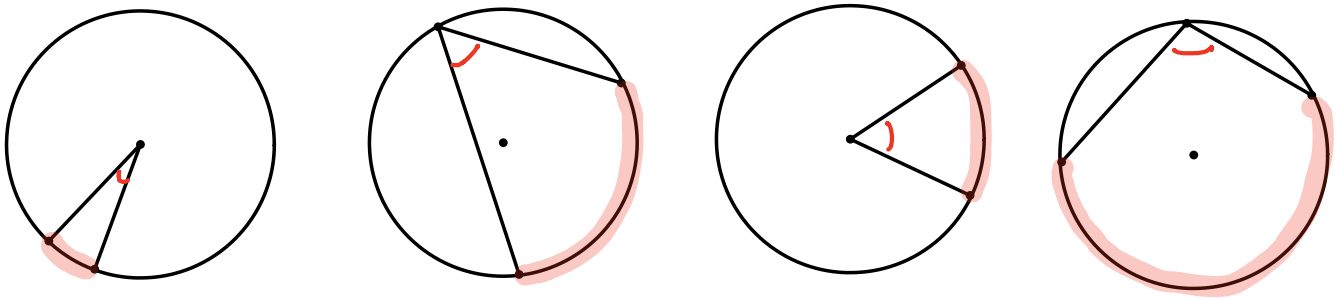
3) Name 3 major arcs: $\overset{\frown}{RUD}$, $\overset{\frown}{OUD}$, $\overset{\frown}{ODN}$

4) Name two semicircles: $\overset{\frown}{RUN}$, $\overset{\frown}{RDN}$



✸ An **intercepted arc** is the part of a circle "cut off" by an angle.

Examples of intercepted arcs:



5) In ⊙H, name the intercepted arc "cut off" by the given angle:

a. ∠BDA ___BA___

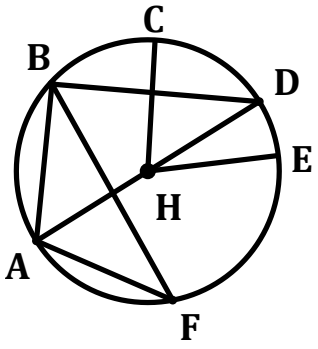
b. ∠EHC ___CE or CDE___

c. ∠FAD ___FED___

d. ∠FAB ___BDF___

e. ∠ABD ___DFA___

f. ∠AFB ___BA___



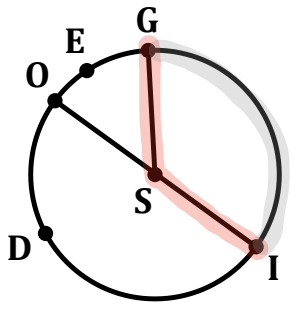
6) Name an example of each of the following arcs in ⊙S below.

Minor arc: ___GEO___

Major arc: ___GDI___

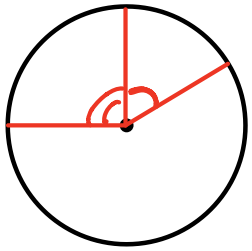
Semicircle: ___IDO___

Intercepted arc for ∠GSI: ___GI___

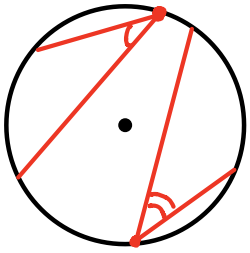


<u>Types of Angles Found with Circles (this is not all-inclusive – we will discuss more when we find the measures of these angles ☺)</u>

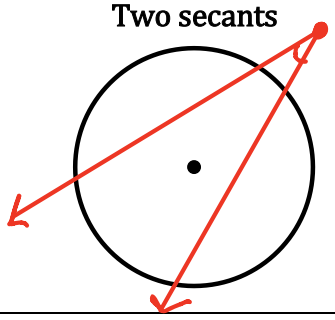
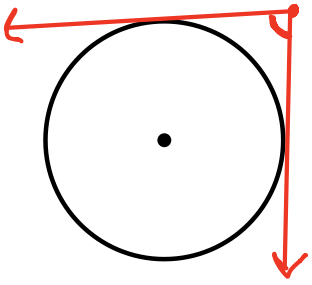
Angles with Vertices at the Center of a Circle

Name	Definition	Example
Central Angle	An angle whose vertex is the center of the circle.	

Angles with Vertices On a Circle

Name	Definition	Example
Inscribed Angle	An angle whose vertex is on the circle.	

Angles with Vertices Outside a Circle

Name	Definition	Example
Outside Angle	An angle whose vertex lies outside the circle and whose rays intersect the circle.	Two secants 
	Two tangents 	Tangent & secant