





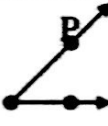


Basic Terminology:

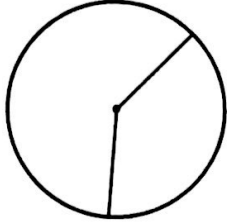
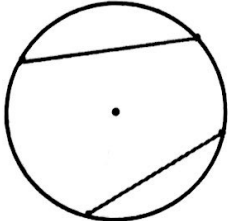
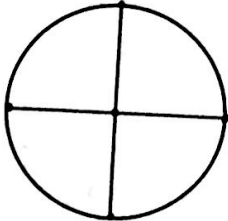
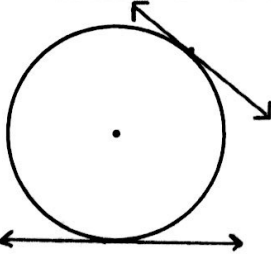
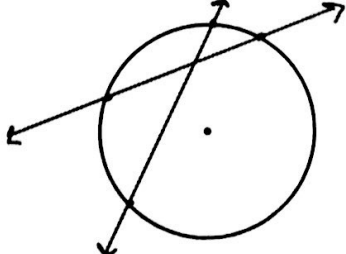
Notation is very important in Geometry. You must use the correct notation for lines, segments, rays and angles.

<u>Description</u>	<u>Example</u>	<u>Symbol</u>	<u>Read</u>
A point is an exact location.	• P	no symbol	point P
A line is a straight path that goes on forever in both directions. It has no endpoints.		 AB or  BA	line AB or line BA
A line segment is part of a line. It has two endpoints.		— XY or — YX	line segment XY or line segment YX
A ray is a part of a line that begins at one endpoint and goes on forever in only one direction.		 MN	ray MN
An angle is formed by two rays that have a common endpoint. The endpoint is the vertex .		< PMQ < QMP or < M	angle PMQ angle QMP or angle M

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.

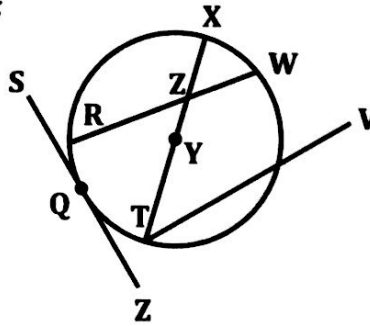
Segments and Lines in/on Circles

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

1) Name an example of each of the following in the diagram of $\odot Y$ below:

- a. Radius
- b. Chord
- c. Tangent
- d. Diameter
- e. Secant

\overline{YX} or \overline{XY} | \overline{YT} or \overline{TY}
 \overline{RW} or \overline{WR} |
 \overleftrightarrow{ST} or \overleftrightarrow{TS} or \overleftrightarrow{TV}
 \overleftrightarrow{XT} or \overleftrightarrow{TX}
 \overleftrightarrow{VT} or \overleftrightarrow{TV}

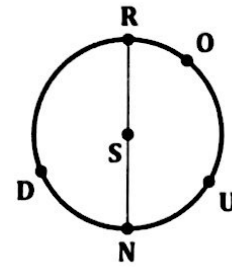


Arcs and Angles in Circles

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

Name	Measure	Example(s)	Label
Minor Arc	Less than 180°		\widehat{AB} or \widehat{BA} \widehat{FE} or \widehat{EF} \widehat{CD} or \widehat{DC} \widehat{AF} or \widehat{FA}
Major Arc	More than 180°		\widehat{EDCB} or \widehat{BCDE} \widehat{AFEDC} or \widehat{CDEFA}
Semicircle	Equal to 180°		\widehat{FABC} or \widehat{CBAF} \widehat{CDEF} or \widehat{FEDC}

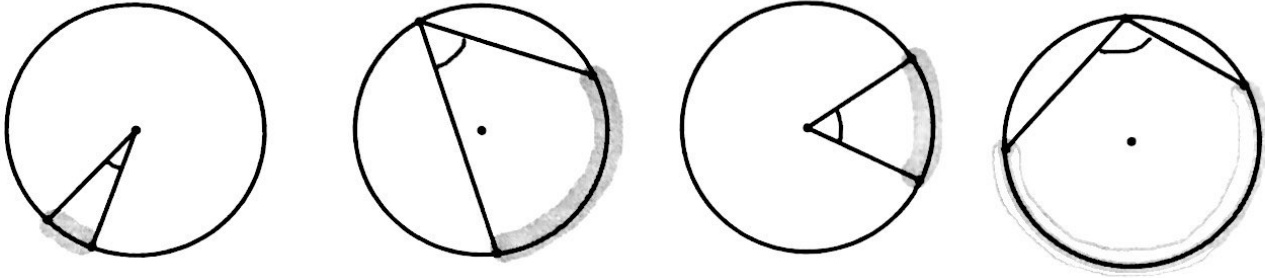
For #s 2-4, use the diagram of $\odot S$ to the right.



- 2) Name 3 minor arcs: \widehat{RO} , \widehat{RU} , \widehat{NU}
- 3) Name 3 major arcs: \widehat{ODU} , \widehat{ROUND} , \widehat{UORD}
- 4) Name two semicircles: \widehat{RON} , \widehat{RON}

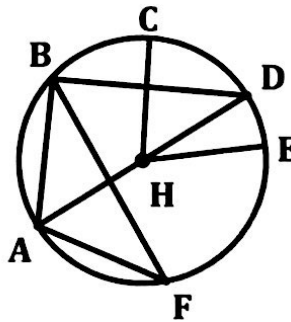
* An intercepted arc is the part of a circle "cut off" by an angle.

Examples of intercepted arcs:



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

- a. $\angle BDA$ \widehat{AB} or \widehat{BA}
- b. $\angle EHC$ \widehat{EC} or \widehat{CE}
- c. $\angle FAD$ \widehat{FD} or \widehat{DF}
- d. $\angle FAB$ \widehat{FBCD} or \widehat{BCDF}
- e. $\angle ABD$ \widehat{AFED} or \widehat{DEFA}
- f. $\angle AFB$ \widehat{AB} or \widehat{BA}



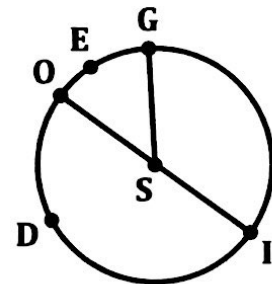
6) Name an example of each of the following arcs in $\odot S$ below.

Minor arc: \widehat{DI}

Major arc: \widehat{EODI}

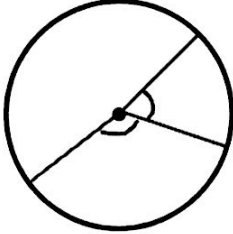
Semicircle: \widehat{IOD}

Intercepted arc for $\angle GSI$: \widehat{GI}

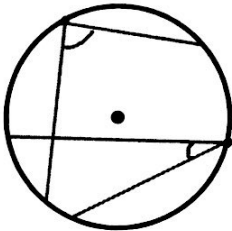


Types of Angles Found with Circles (this is not all-inclusive – we will discuss more when we find the measures of these angles 😊)

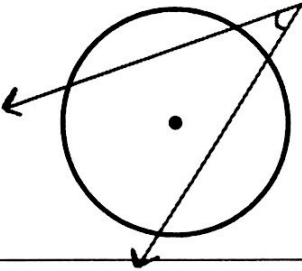
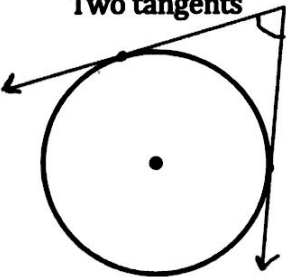
Angles with Vertices at the Center of a Circle

Name	Definition	Example
Central Angle	An angle whose vertex is the <u>center</u> of the circle.	

Angles with Vertices On a Circle

Name	Definition	Example
Inscribed Angle	An angle whose vertex is <u>on</u> the circle.	

Angles with Vertices Outside a Circle

Name	Definition	Example
Outside Angle	An angle whose vertex lies <u>Outside</u> the circle and whose rays intersect the circle.	<p data-bbox="916 1301 1075 1335">Two secants</p> 
	<p data-bbox="533 1608 708 1641">Two tangents</p> 	<p data-bbox="884 1619 1107 1653">Tangent & secant</p> 