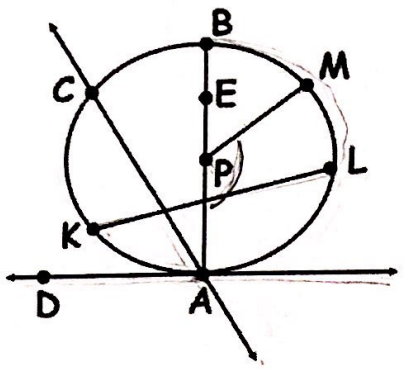
Geometry
Introduction to Circles

Name: _____
Date: _____

Terminology. (List one example of each.)



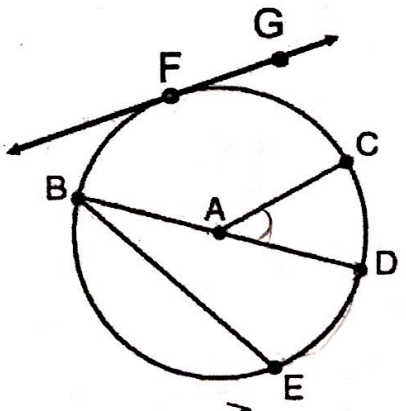
Circle	⊙P
Chord	$\overline{KL}$
Radius	$\overline{PM}$
Diameter	$\overline{AB}$
Tangent	$\overleftrightarrow{AD}$
Secant	$\overleftrightarrow{EA}$
Major Arc - 3 pts	$\overset{\frown}{BAK}$
Minor Arc - 2 pts	$\overset{\frown}{BL}$
Semicircle - 3 pts	$\overset{\frown}{BMA}$
Central Angle	$\angle MPA$

Now Match the Definitions.

1. the set of all points equidistant from a point	b	a. central angle
2. the distance from a point on a circle to the center	g	b. circle
3. a line segment whose endpoints lie on a circle	c	c. chord
4. a chord that passes through the center of a circle	d	d. diameter
5. a line that intersects a circle at exactly two points	h	e. major arc
6. a line that intersects a circle at exactly one point	j	f. minor arc
7. an angle whose vertex is the center of a circle	a	g. radius
8. an arc whose endpoints lie on the diameter	i	h. secant
9. an arc that is less than a semicircle	f	i. semicircle
10. an arc that is greater than a semicircle	e	j. tangent

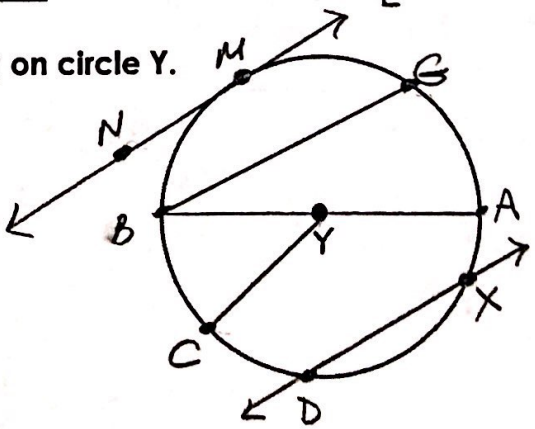
Let's Practice.

1. Name the circle.	⊙A
2. Name a radius.	$\overline{AC}$
3. Name a diameter.	$\overline{BD}$
4. Name a chord that is not the diameter.	$\overline{BE}$
5. Name the central angle.	$\angle CAD$
6. Name a minor arc.	$\overset{\frown}{DE}$
7. Name a semicircle.	$\overset{\frown}{BED}$
8. Name a major arc.	$\overset{\frown}{BCC}$
9. Name a tangent.	$\overleftrightarrow{FG}$



Let's Draw. Using a straightedge, draw the following on circle Y.

1. a chord BG
2. a diameter AB
3. a tangent MN
4. a radius CY
5. a secant DX

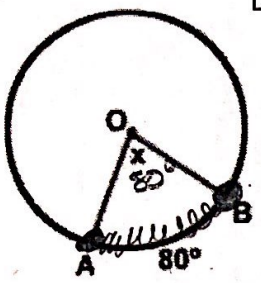


YOU MUST REMEMBER:

- a circle has 360 degrees.
- a semicircle has 180 degrees.
- vertical angles are congruent.
- linear pairs are supplementary total 180°

Measures of Central Angles

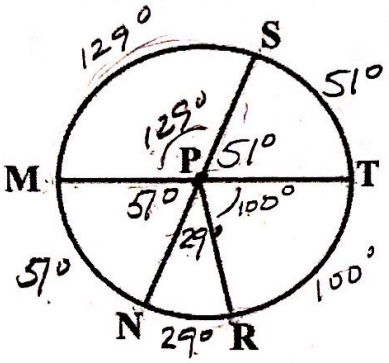
measure of a central angle = measure of its intercepted arc



$\angle AOB$ is the central angle.
$\overset{\frown}{AB}$ is the intercepted arc.
$m\angle AOB = m\overset{\frown}{AB} =$ 80°.

Let's Practice.

In ⊙P, $m\angle SPT = 51°$, $m\angle NPR = 29°$, and $\overline{SN}$ and $\overline{MT}$ are diameters. Find each measure.



1. $m\overset{\frown}{NR} = 29°$ (arc)
2. $m\overset{\frown}{ST} = 51°$
3. $m\angle MPN = 51°$ (angle)
4. $m\overset{\frown}{TSR} = 260°$ 180+51+29
5. $m\overset{\frown}{MN} = 51°$
6. $m\overset{\frown}{MST} = 180°$
7. $m\overset{\frown}{NMS} = 180°$
8. $m\angle MPS = 129°$ 180-51
9. $m\overset{\frown}{SRN} = 180°$
10. $m\overset{\frown}{NTS} = 180°$
11. $m\angle TPR = 100°$ 180-51-29
12. $m\overset{\frown}{RT} = 100°$