

1) Think about it.

What does this quote mean to you?

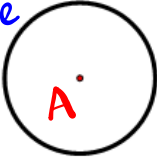
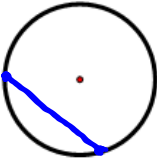
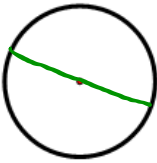

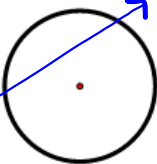

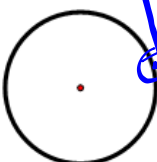
*"whatever you are,
be a good one."*

2) Do it.

Google these definitions, fill in the box and draw a picture on the circle.

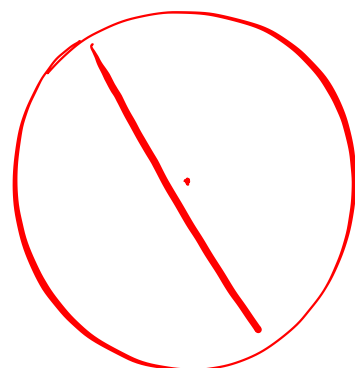


Intro to Circles and Arcs

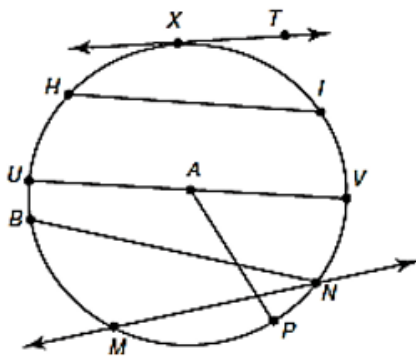
Circle	a round figure w/ points <u>equidistant</u> to the center	circle A 
Chord	a straight joining the end of an arc	
Diameter	a chord that goes through the center	
Radius	the distance from the center to the circle	
Secant	a line that cuts a curve into 2 or more parts	
Tangent	a straight line that touches a curve at exactly one point	
Point of Tangency	intersection of tangent line and circle	

Circles have 360 degrees.

Semicircles have 180 degrees.



Example: Name all the parts of the circle:



Radii: $\overline{AP}, \overline{AV}, \overline{AU}$

Diameter: \overline{UV}

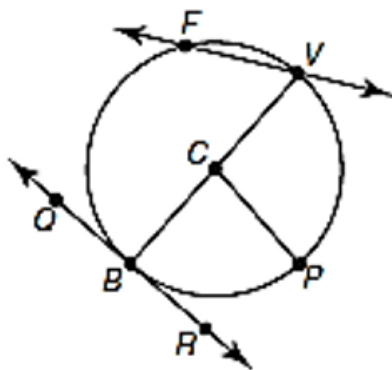
Chords: $\overline{BN}, \overline{HI}, \overline{NM}, \overline{UV}$

Secant: \overleftrightarrow{MN}

Tangent: \overline{XT}

Point of Tangency: X

Practice:



1. Name the following parts of the circle:

Circle: $\odot C$

Point of Tangency: B

Center: C

Tangent: \overline{QR}

Diameter: \overline{VB}

Secant: \overleftrightarrow{FV}

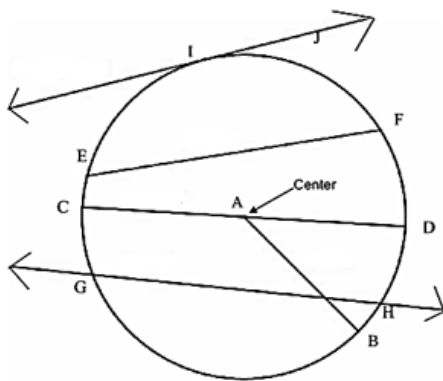
All

Chords: All Radii:

$\overline{FV}, \overline{BV}$

$\overline{BC}, \overline{PC}, \overline{VC}$

Example: Name all the parts of the circle:



Radii: $\overline{AB}, \overline{AC}, \overline{AD}$

Diameter: \overline{CD}

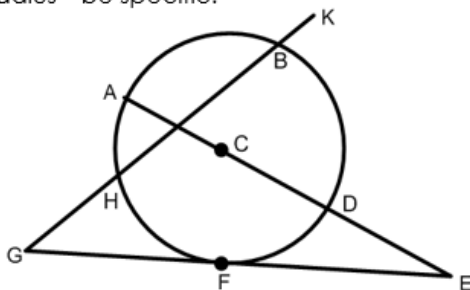
Chords: $\overline{EF}, \overline{CD}, \overline{GH}$

Secant: \overleftrightarrow{GH}

Tangent: \overline{IJ}

Point of Tangency: I

EXAMPLE: Tell whether the line or segment is best described as a chord, a secant, a tangent, a diameter, or a radius—be specific!



a. \overline{AD} Diameter

b. \overline{CD} radius

c. \overline{EG} Secant

d. \overline{HB} chord

e. \overline{FB} secant

g. \overline{FE} Tangent

Arcs & Central Angles

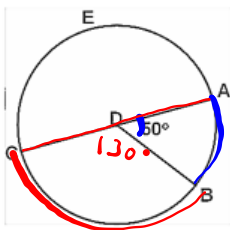
An **arc** is an unbroken part of a circle consisting of two points called the endpoints and all the points on the circle between them.

Arc or Angle	Definition	Measure	Picture
Minor Arc	An arc whose points are on or in the interior of a central angle. Minor arcs are <u>less than 180°</u> and <u>only use two letters to name them.</u>	The measure of a minor arc is equal to the measure of the central angle.	
Major Arc	An arc whose endpoints are on or in the exterior of a central angle. Major arcs are between <u>180° and 360°</u> . <u>Three letters</u> are used to name a major arc.	The measure of a major arc is equal to 360° minus the measure of its central angle or minor arc.	
Semicircle	An arc whose endpoints lie on a diameter. Semicircles are named using <u>three letters.</u>	The measure of a semicircle is <u>180°</u> .	
Central Angle	An angle whose vertex is the <u>center</u> of the circle.	The measure of a central angle is equal to the measure of its minor arc. <u>$\widehat{AC} = \angle AOC$</u>	
Name	Theorem	Hypothesis	Conclusion
Arc Addition Postulate	The measure of an arc formed by two adjacent arcs is the sum of the measures of the two arcs.		<u>$\widehat{QP} + \widehat{PR} = \widehat{QR}$</u>

Example: Identify the following arcs are minor, major, or semicircle.

1. \widehat{AE} minor
2. \widehat{FDE} semicircle
3. \widehat{FA} minor
4. \widehat{DFB} major

Example: Find the measure of the following:



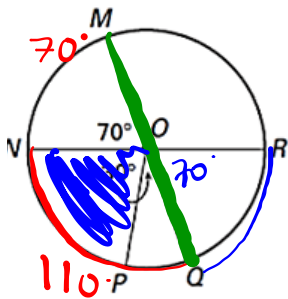
1. $m\widehat{AB} = 50^\circ$

2. $m\widehat{BC} = 130^\circ$

3. $m\widehat{AEC} = 180^\circ$

4. $m\widehat{BCA} = 310^\circ$

Example: Find the measure of the following:



1. $m\widehat{MN} = 70^\circ$

6. $m\widehat{MR} = 110^\circ$

2. $m\widehat{NQ} = 110^\circ$

7. $m\widehat{QMR} = 290^\circ$

3. $m\widehat{NQR} = 180^\circ$

8. $m\widehat{PQ} = 30^\circ$

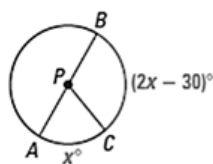
4. $m\widehat{MRP} = 210^\circ$

9. $m\widehat{PRN} = 280^\circ$

5. $m\widehat{QR} = 70^\circ$

10. $m\widehat{MQN} = 290^\circ$

Example: Find the value of x . Then find the measure of arc BC.



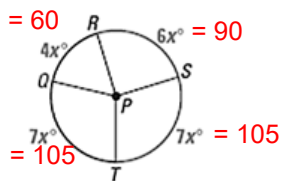
$$x + 2x - 30 = 180$$

$$3x = 210$$

$$x = 70$$

$$BC = 110$$

Example: Find the value of x . Then find the measure of all central angles and arcs.



$$4x + 6x + 7x + 7x = 360$$

$$24x = 360$$

$$x = 15$$