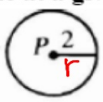
Geometry **Sec. 9-1 Basic Terms** **Date** Feb 10 & 13

- A circle is the set of all points in a plane at a given distance (radius) from a given point (Center).



circle P or ⊙P

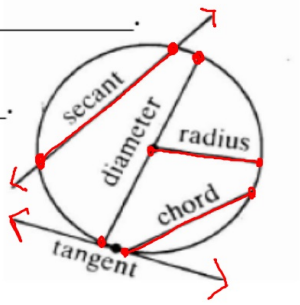
- A radius is a segment that joins the center to any pt. on the circle

The plural of radius is radii. **All radii in a circle are congruent.**

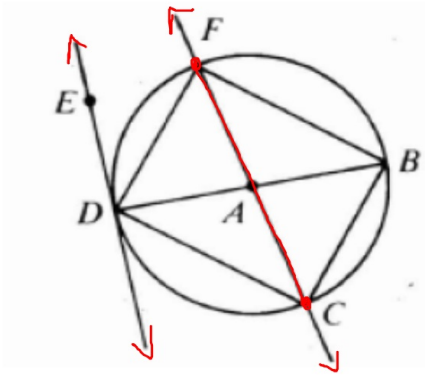
- A chord is a segment whose endpoints on the circle.
- A diameter is a chord that passes through the center.

The length of the diameter is twice the radius.

- A secant is a line that contains a chord.
- A tangent is a line in the plane of the circle that intersects the circle in exactly 1 pt, called the point of tangency.



Name the following: *the circle*



the circle circle A

4 radii $\overline{DA}$, $\overline{BA}$, $\overline{CA}$, $\overline{FA}$

2 diameters $\overline{DB}$, $\overline{FC}$

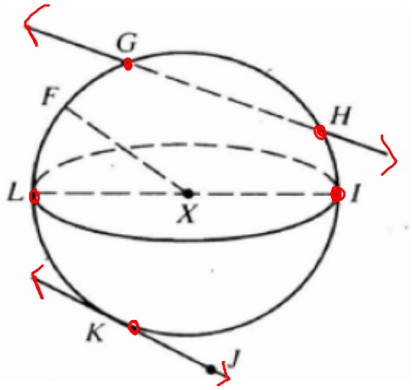
4 chords that are not diameters $\overline{DF}$, $\overline{DC}$, $\overline{CB}$, $\overline{BF}$

a secant $\overleftrightarrow{FC}$

a tangent $\overleftrightarrow{DE}$

a point of tangency pt D

- **A sphere is the set of all points in space at a given distance (radius) from a given point (center).**



Name the following:

3 radii $\overline{XF}$, $\overline{LX}$, $\overline{IX}$

secant $\overleftrightarrow{GH}$

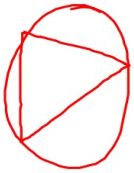
diameter $\overline{LI}$

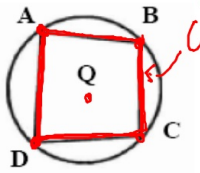
chord $\overline{GH}$, $\overline{LI}$

tangent $\overleftrightarrow{JK}$

- **Congruent circles (or spheres) have** = diameters or = radii.
- **Concentric circles are in the same plane and have the same** center.
- **Concentric spheres have the same center.**

- **A polygon is inscribed in a circle and a circle is circumscribed about the polygon when each vertex of the polygon lies on the circle. The sides of the inscribed quadrilateral are chords of the circle.**





quadrilateral ABCD is inscribed in circle Q

circle Q is circumscribed about quadrilateral ABCD

Example: Draw circle K with radius 16. Draw radii $\overline{KR}$ and $\overline{KM}$. If m$\angle RKM = 120$, find the length of $\overline{RM}$.

$2 \cdot 8\sqrt{3}$

$16\sqrt{3}$