WARMUP #1

How was your extra long weekend?

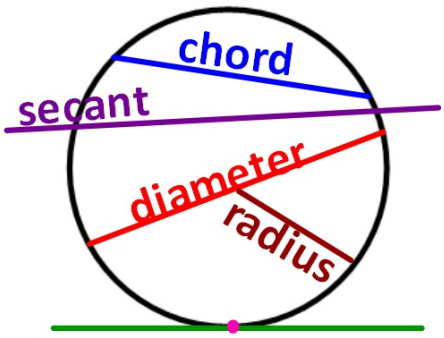
Write 5 sentences telling me about your weekend.

CHAPTER 9: CIRCLES

SECTION 9.1: BASIC TERMS

Standards:

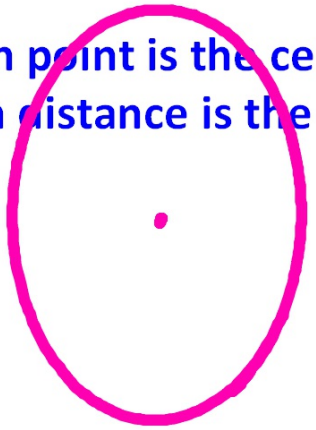
7.0 - Students prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of quadrilaterals, and the properties of circles.



CIRCLE

A circle is the set of all points in a plane at a given distance from a given point in that plane.

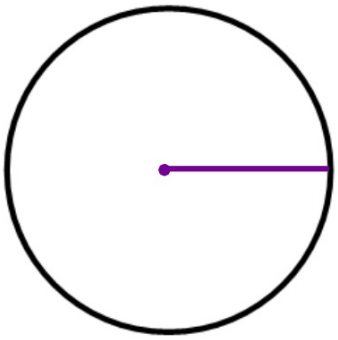
The given point is the center and the given distance is the radius.



RADIUS

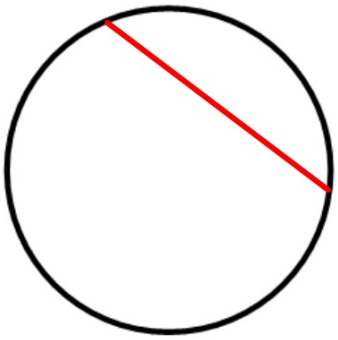
any segment that joins the center to a point on the circle.

All radii are ≅



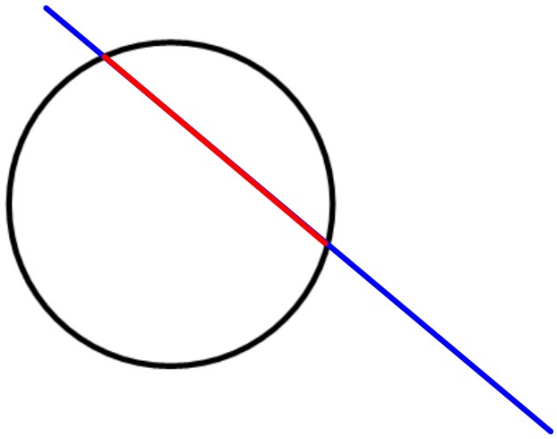
CHORD

a segment whose endpoints lie on a circle



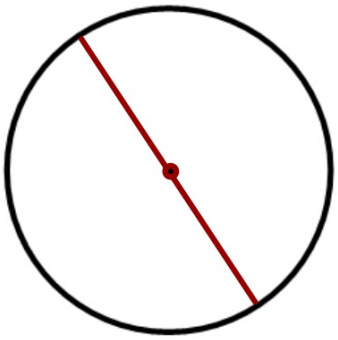
SECANT

a LINE that contains a chord.



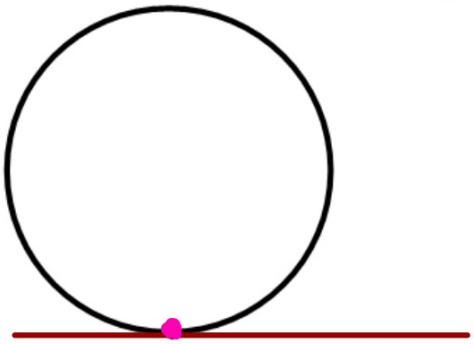
DIAMETER

a chord that contains the center of a circle.



TANGENT

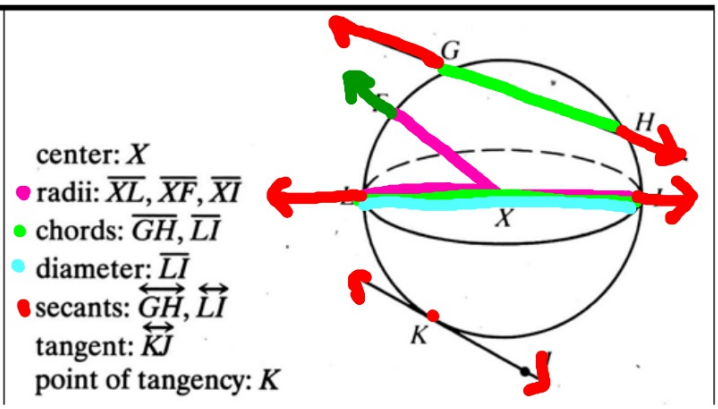
a line in the plane of a circle that intersects the circle in exactly one point, called the point of tangency.



point of tangency

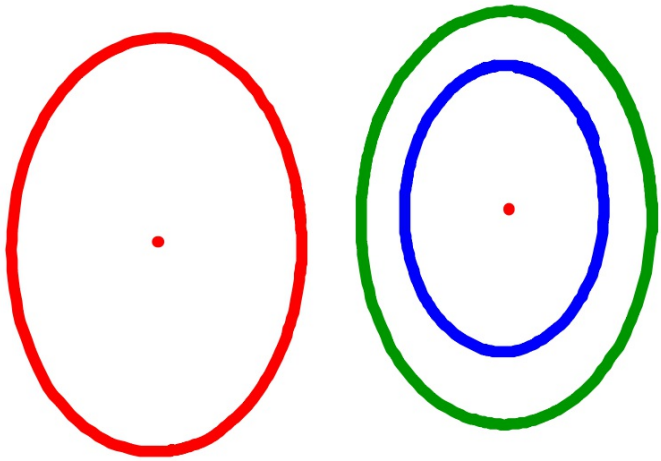
SPHERE

A sphere with center O and radius r is the set of all points in space at a distance r from point O



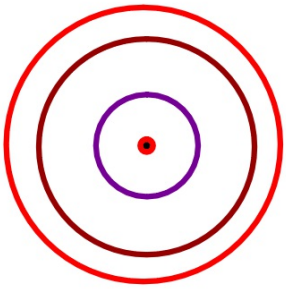
CONGRUENT CIRCLES/SPHERES

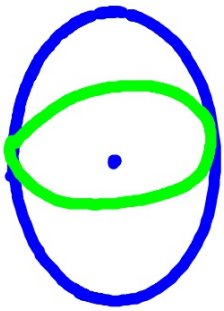
have ≅ radii



CONCENTRIC CIRCLES

circles that line in the same plane and have the same center



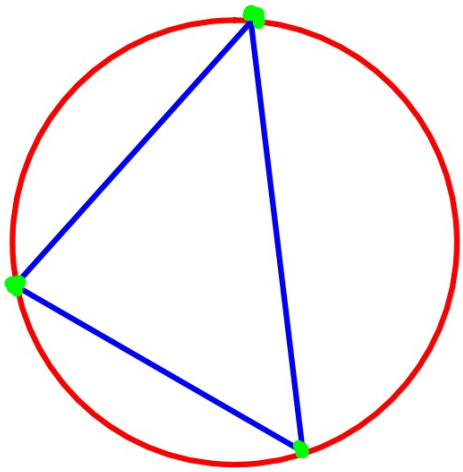


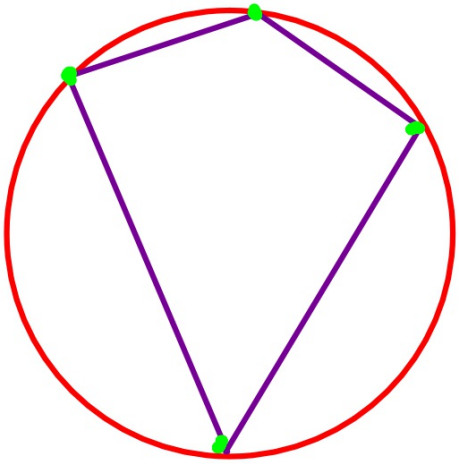
CONCENTRIC SPHERES

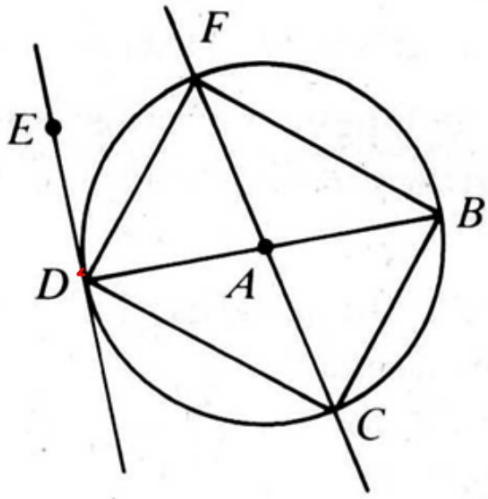
have the same center

INSCRIBED POLYGON/CIRCUMSCRIBED CIRCLE

A polygon is inscribed in a circle and the circle is circumscribed about the polygon when each vertex of the polygon lies on the circle.







In $\odot A$, name:

1. the center A
2. two diameters $\overline{DB}$ $\overline{FC}$
3. a point of tangency D
4. four radii
5. a tangent $\overleftrightarrow{ED}$
6. a secant
7. six chords

$\overleftrightarrow{AF}$ $\overleftrightarrow{AB}$ $\overleftrightarrow{AD}$ $\overleftrightarrow{AC}$ $\overleftrightarrow{FC}$ $\overleftrightarrow{DB}$ $\overleftrightarrow{DF}$ $\overleftrightarrow{FB}$ $\overleftrightarrow{BC}$ $\overleftrightarrow{CD}$

8. Why is $\overline{AC}$ not a chord of $\odot A$?
9. Why is $\overleftrightarrow{BD}$ not a chord of $\odot A$?

A CHORD is a seg. not a line.

→ It is a radius

Def CHORD (2 pts on circle)

HOMEWORK

Assignment #9.1

- Page 330 CE #1-11
- Page 331 WE #5-15

TUES FEB 28th - QUIZ 9.1-9.4

FRI MARCH 2nd - CIRCLES QUIZ

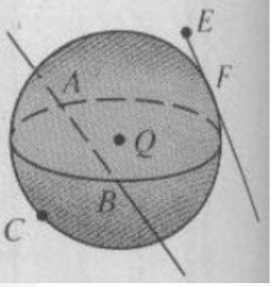
MON MARCH 5th - QUIZ CH 9

WED MARCH 7th - TEST CH 9

Assignment #9.1

- Page 330 CE #1-11
- Page 331 WE #5-15

1. Name three radii of $\odot O$.
2. Name a diameter.
3. Consider $\overline{RS}$ and $\overleftrightarrow{RS}$. Which is a chord and which is a secant?
4. Why is $\overline{TK}$ not a chord?
5. Name a tangent to $\odot O$.
6. What name is given to point L?
7. Name a line tangent to sphere Q.
8. Name a secant of the sphere and a chord of the sphere.
9. Name 4 radii. (None are drawn in the diagram.)
10. What is the diameter of a circle with radius 8? 5.2? $4\sqrt{3}$? j?
11. What is the radius of a sphere with diameter 14? 13? 5.6? $6n$?



5. The radii of two concentric circles are 15 cm and 7 cm. A diameter AB of the larger circle intersects the smaller circle at C and D. Find two possible values for AC.

For each exercise draw a circle and inscribe the polygon in the circle.

6. A rectangle
7. A trapezoid
8. An obtuse triangle
9. A parallelogram
10. An acute isosceles triangle
11. A quadrilateral $PQRS$, with $\overline{PR}$ a diameter

For each exercise draw $\odot O$ with radius 12. Then draw radii $\overline{OA}$ and $\overline{OB}$ to form an angle with the measure named. Find the length of $\overline{AB}$.

12. $m\angle AOB = 90$
13. $m\angle AOB = 180$
14. $m\angle AOB = 60$
15. $m\angle AOB = 120$