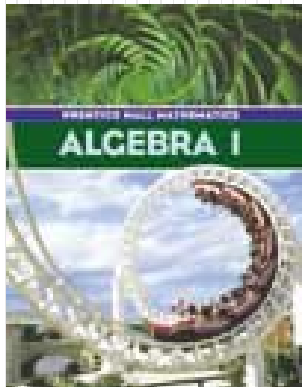
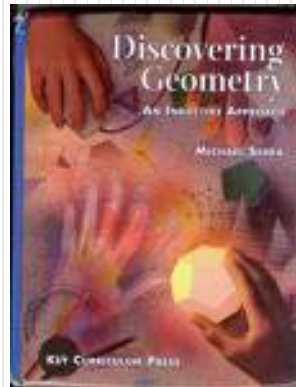


Mr. Northcutt's Math Classes Class Presentation

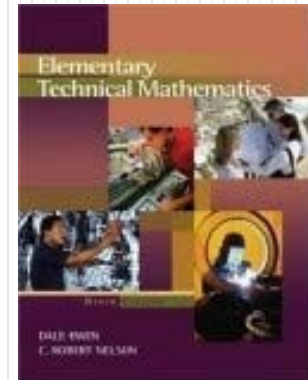
January 12, 2009 (80)



Math 1



Math 2



Applied Math



Math 1 – Daily Summary

- **Announcements**

- Chapter 9 Test on Friday
- Semester #1 Final and Proficiency Test Next Week.

- **Class Objectives**

- Quiz on Sections 9-1 thru 9-4
 - Begin Fractions Worksheet after completing Quiz.
- Fraction Review (Reduce; Add, Subtract, Multiply & Divide)

- **Assignment**

- *Fractions Worksheet* (Reduce; Add, Subtract, Multiply & Divide)



Math 2 – Daily Summary

- **Announcements**

- Chapter 7 Test on **Friday!**
- Semester #1 Final and Proficiency Test Next Week.

- **Class Objectives – *What you should learn today!***

- Quiz Review:
 - Central Angle vs. Inscribed Angles
 - Arc Measure
- Circumference of Circle
- Relationship between Circumference & Diameter of a Circle

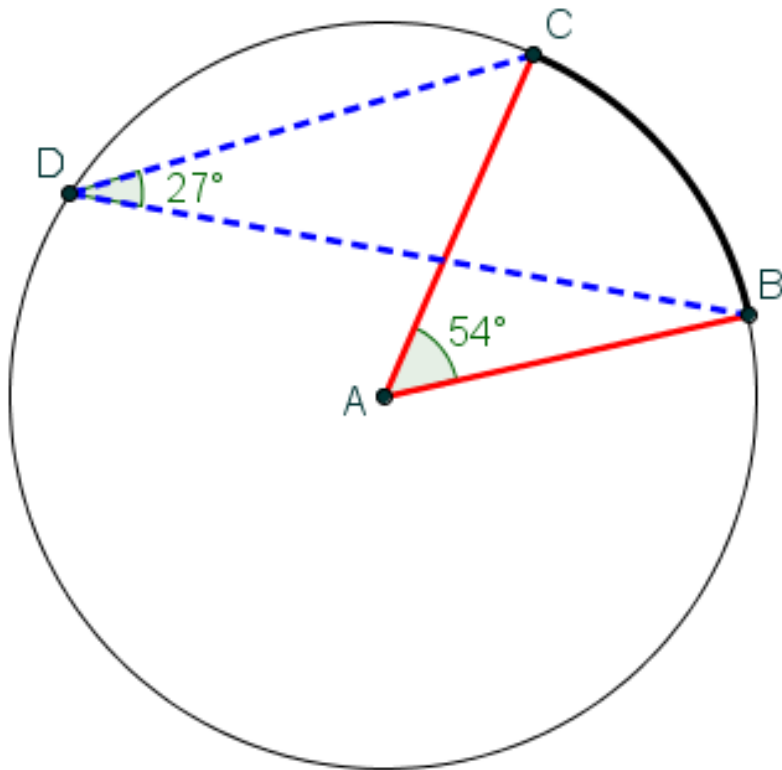
- **Assignment**

- **Lesson 7.5: 1-16 ALL**



Central vs. Inscribed Angle

- See relationship below...



Central Angle: $\angle CAE$

Inscribed Angle: $\angle CDE$

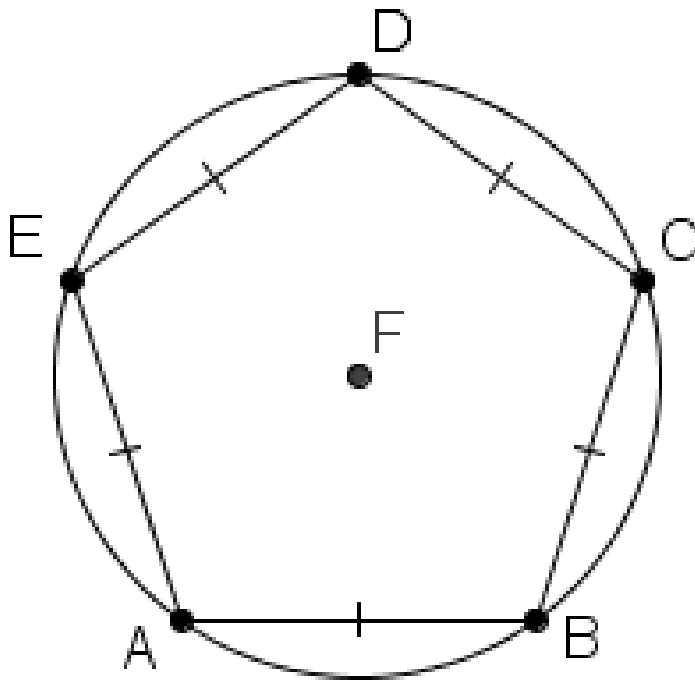
Arc Measure vs. Angles

$$m\widehat{BC} = m\angle CAB = 54^\circ = 2 \cdot m\angle CDB$$



Problem #8

- Find the measure of \widehat{ABC}



Key Conjecture: If two chords in a circle are congruent, then their intercepted arcs are congruent.



Circle Investigation

- 1. Pick a circular or spherical object (or draw a circle).**
 - Or draw a circle on paper (in your notebook)
- 2. Measure the Diameter (D) of the object/circle.**
- 3. Measure the Circumference (C) of the object/circle.**
- 4. Divide the circumference by the diameter.**

$$\frac{C}{D} = ?$$



Circumference Conjecture

- **Circumference Conjecture**

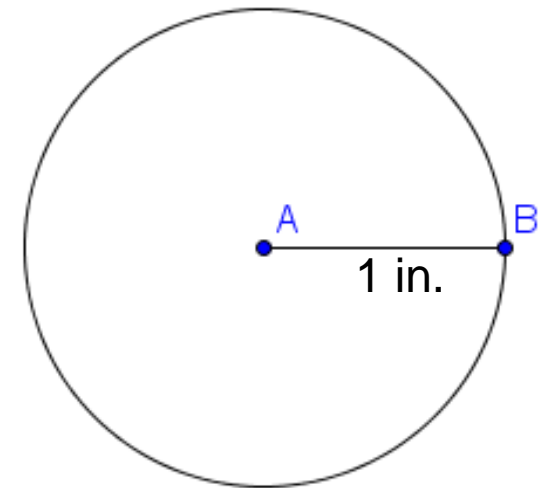
- If C is the circumference and D is the diameter of a circle, then there is a number **B** such that:

$$C = \pi \cdot D$$

- Since $D=2r$ where r is the radius, then:

$$C = 2\pi \cdot r$$

“Unit Circle”



Circumference = 2B in.

Working with **B**

B Day
March 14, 2009



- **B** is an Irrational number: [3.14159...](#) (Click for digits)
 - Approximate as 3.14; There is a “**B**” button on calculators.
 - HOWEVER, when working problems in Geometry do NOT change the symbol to a number in your calculations (unless explicitly told to). This will make the problems EASIER to solve and make your answers more ACCURATE.
- **Example:**
 - A circle has a radius of 3m, what is its circumference?

$$\begin{aligned}C &= 2\pi r \\ &= 2\pi \cdot 3 \\ &= \boxed{6\pi \text{ m}}\end{aligned}$$



Applied Math – Daily Summary

- **Announcements**

- **Chapter 12 Test Early Next Week (date TBD)**

- **Class Objectives – *What you should learn today!***

- Properties of Circles
 - Radius, Center, Diameter, Circumference, Area, Pi (**B**)
- Related Geometric Objects
 - Chord, Secant, Tangent, Inscribed Angle, Intercepted Arc, Central Angle
- Properties of Circles and Related Objects

- **Assignment**

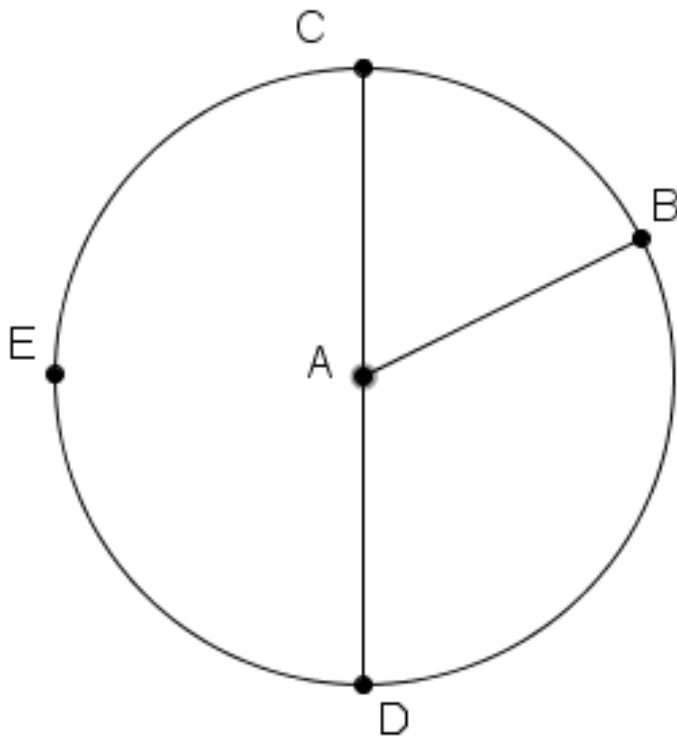
- **Section 12.5: 4, 8, 14, 20, 27, 30, 31, 34, 37, 39**



Properties of Circles

- **Circle**

- The set of all points a given distance (**radius**) from a given point (**center**).



Circumference

$$C = 2\pi r$$

$$C = \pi d$$

Area

$$A = \pi r^2$$

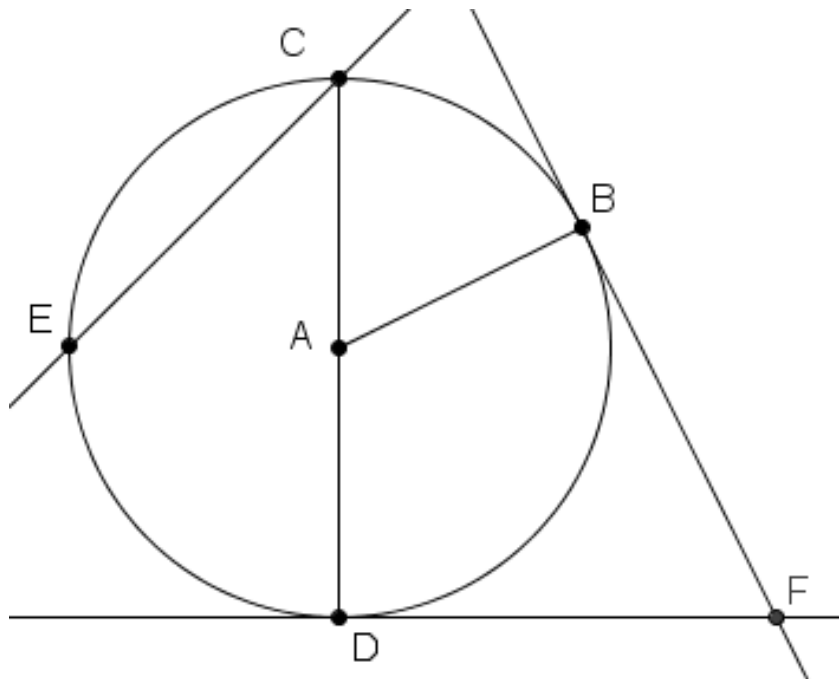
$$C = \frac{\pi d^2}{4}$$



Objects Related to Circles

- Arcs, Central Angle, Inscribed Angle, Intercepted Arc
- Chord, Tangent, Secant

Symbolic Form





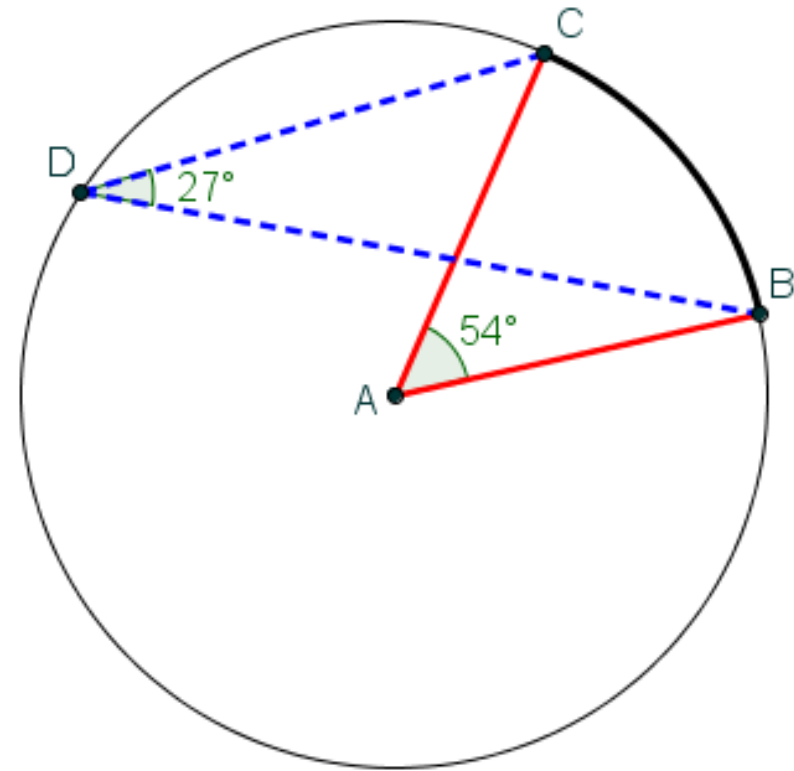
Properties of Arcs

- **Arc Measure**

- The measure of a central angle in circle is equal to the measure of its intercepted arc.

- **Inscribed Angle**

- The measure of an inscribed angle in a circle is equal to $\frac{1}{2}$ the measure of its intercepted arc.





Properties of Chords & Tangents

- **Chord Bisector**

- A diameter that is perpendicular to a chord bisects the chord.

- **Point of Tangency**

- A line segment from the center of a circle to the point of tangency is perpendicular to the tangent.

- **Tangent Segments**

- Two tangents drawn from a point outside a circle to the circle are equal.

