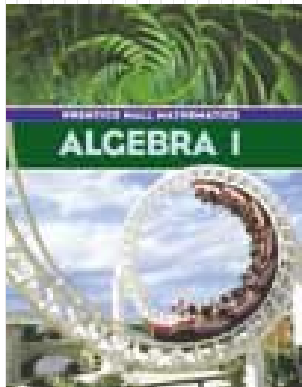
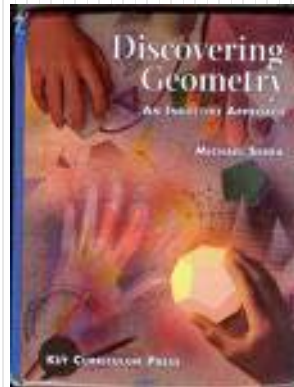


Mr. Northcutt's Math Classes Class Presentation

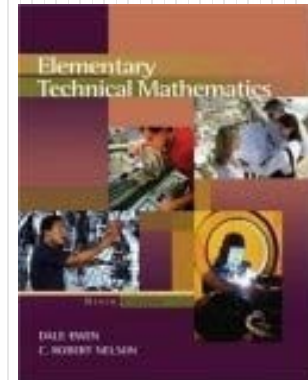
March 2, 2009 (111)



Math 1



Math 2



Applied Math



Math 1 – Daily Summary

- **Announcements**
 - **Quiz on Sections 6.1 thru 6.5 on Friday!**
- **Class Objectives – *What you should learn today!***
 - Review of Quiz Results
 - Point-Slope Form of the Equation of a Line
 - Working/manipulating ALL 3 Forms of Line:
 - Slope-Intercept
 - Standard Form
 - Point-Slope Form
- **Assignment**
 - **Section 6-4: 2-30 EVEN, 36, 38**

Equations of Lines (so far...)



Slope-Intercept Form

$$y = mx + b$$

- Graph using **Slope** and **y-intercept**
- Can transform to Standard Form

Standard Form

$$Ax + By = C$$

- Graph using **x-** and **y-intercepts**
- Can transform to Slope-Intercept Form



Point-Slope Form of a Line

- The 3rd (and final) Form of the Line that we will learn is Point-Slope Form. Given the slope, m , and a point (x_1, y_1) on the line:

$$\frac{\Delta y}{\Delta x} = m \quad \Rightarrow \quad (y - y_1) = m(x - x_1)$$

- This form of the line can also be transformed into either Slope-Intercept or Standard Form.



Example - Multiple Forms

- Find the equation of the line with Slope = 3 through point (2, 3) in: **(1) Point-Slope Form**, **(2) Slope-Intercept Form**, and **(3) Standard Form**.

$$(y - y_1) = m(x - x_1) \quad \leftarrow \text{Point-Slope Form}$$

$$(y - 3) = 3(x - 2)$$

$$y - 3 = 3x - 6$$

$$y = 3x - 3 \quad \leftarrow \text{Slope-Intercept Form}$$

$$-3x + y = -3$$

$$3x - y = 3 \quad \leftarrow \text{Standard Form}$$

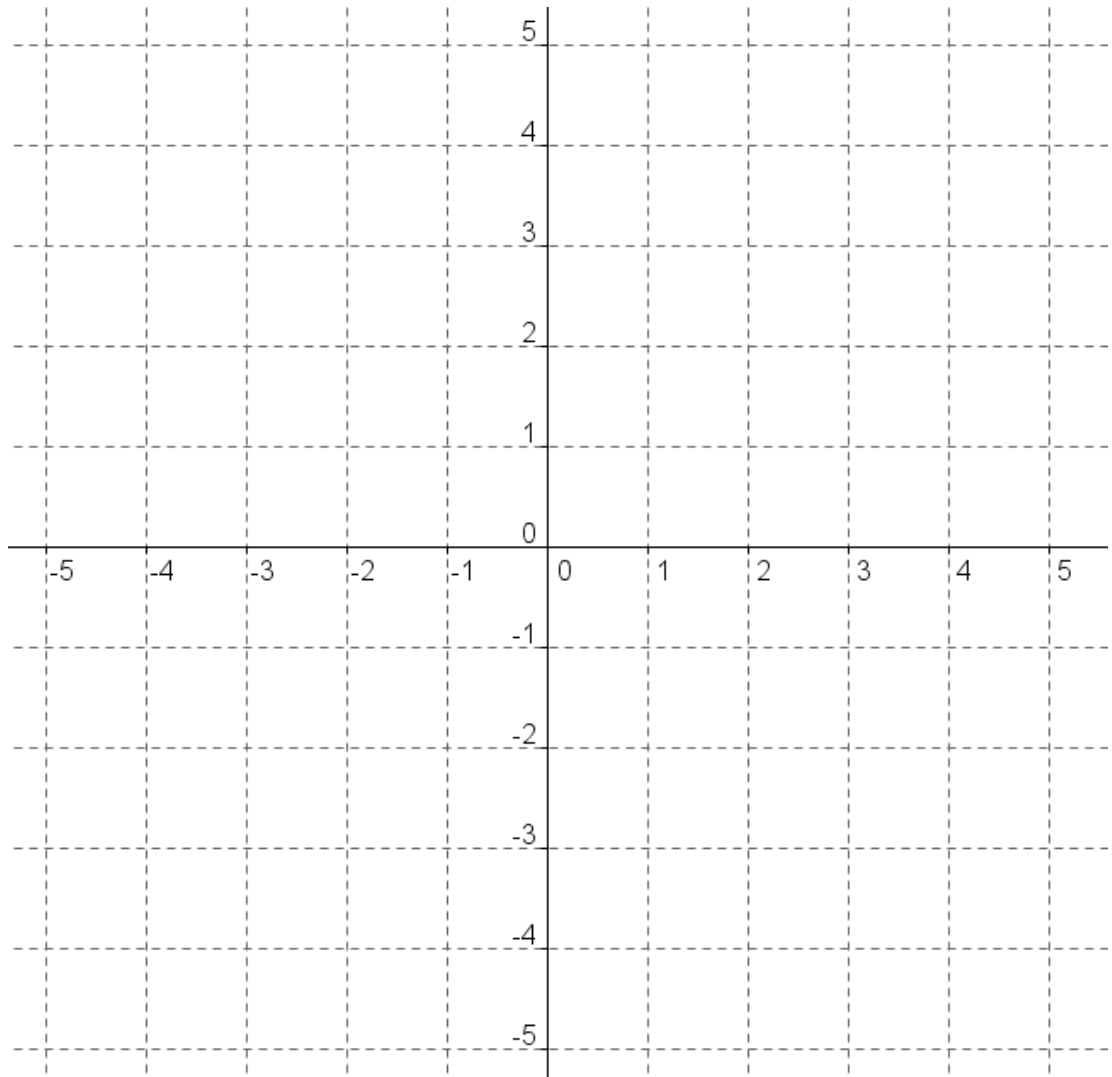


Graph the Equations

$$(y - y_1) = m(x - x_1)$$

$$y - 2 = -\frac{3}{2}(x - 3)$$

$$y - 2 = -(x + 2)$$



Write Equation in Point-Slope Form



$$(y - y_1) = m(x - x_1)$$

$$(4, 2); m = -\frac{5}{3}$$

$$(3, 0); m = 1$$

Write Equation in Point-Slope Form



$$(y - y_1) = m(x - x_1)$$

$(-1, 0); (1, 2)$

$(-2, 6); (5, 1)$

Which Form would you start with...



- Write the Equation of the Line given:
 - Slope & y-intercept: $m=3$, y-intercept=-4
 - Point & Slope: $m=-2$, (3, -2)
 - Two Points: (1, 3), (-2, -3)



Math 2 – Daily Summary

- **Announcements**

- **Chapter 10 Test on Wednesday!**
 - Sample Test Available on Website NOW...
- I am NOT available after school on Tuesday!

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

- **Quiz for 5th Period ONLY** - and those who missed in 4th Period...
- Using the Pythagorean Theorem with Circles

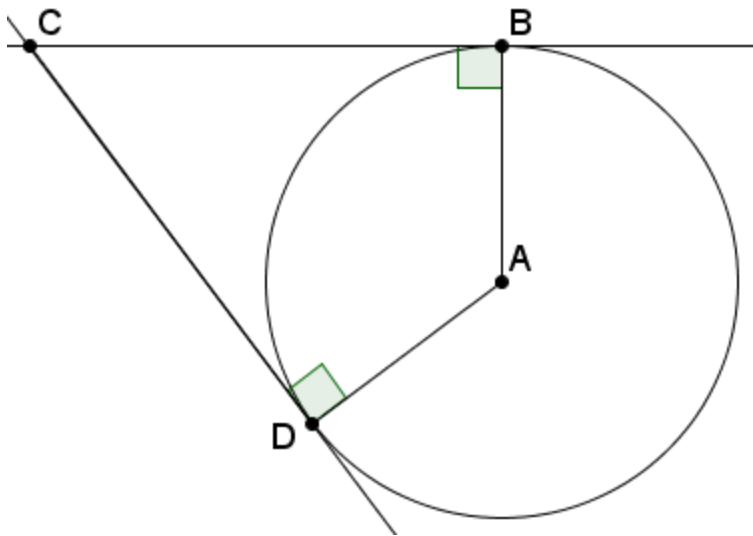
- **Assignment**

- **Lesson 10.8:** 1-11, 15, 16

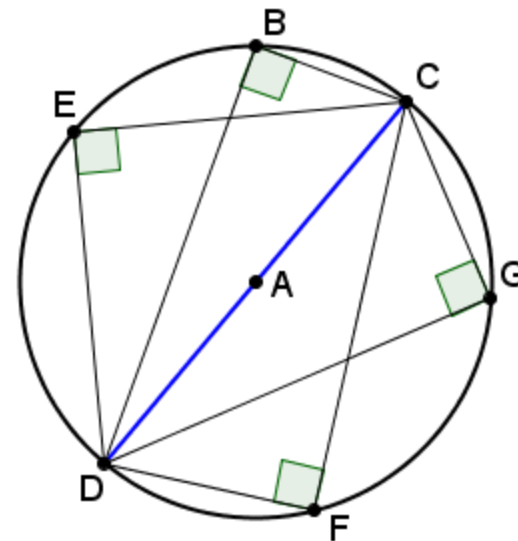


Review - Circle Conjectures

- **Radius is Perpendicular to a Tangent at the Point of Tangency.**



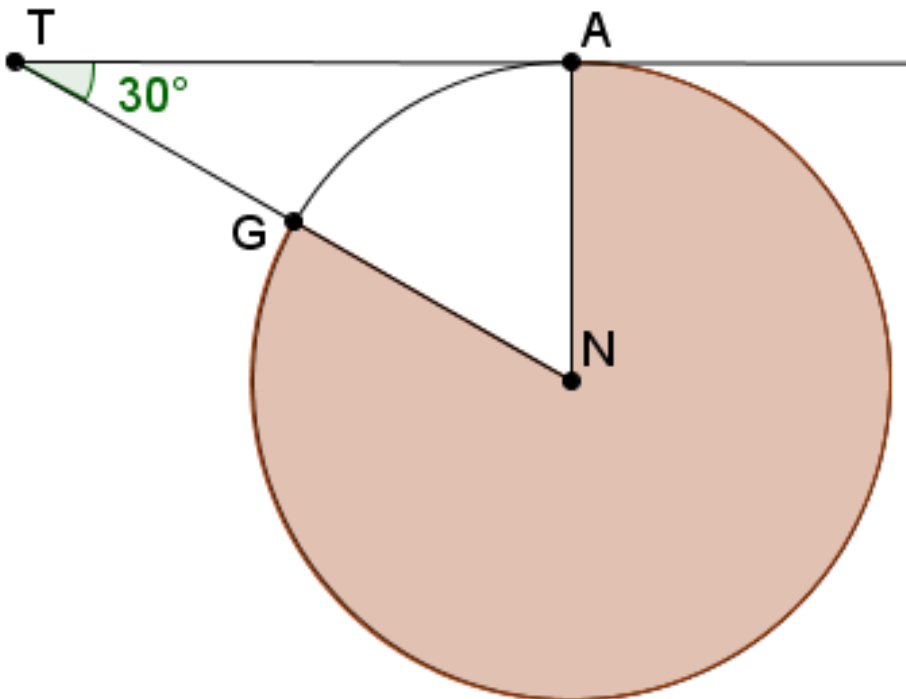
- **Inscribed Angles in a Semicircle are Right Angles.**





Example #1

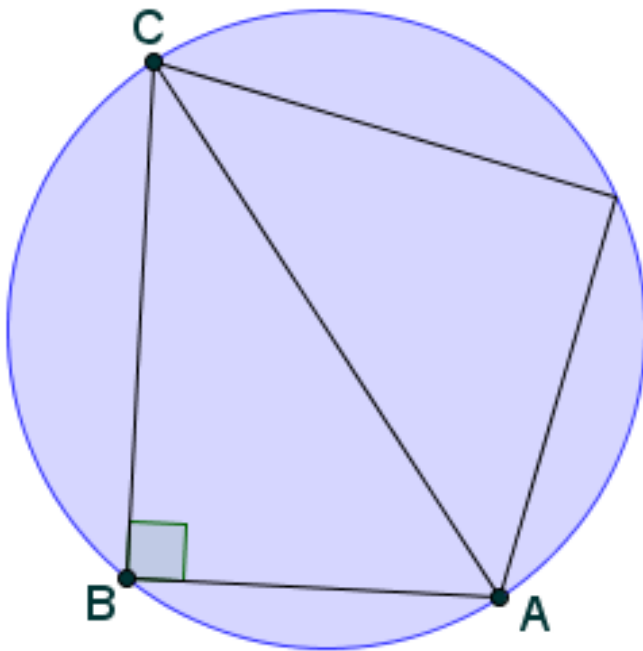
- $AN = 12$ cm. Ray TA is a tangent to Circle N . Find the area of the shaded region.





Example #2

- **$AB = 6$ cm and $BC = 8$ cm. Find the area of the shaded region.**





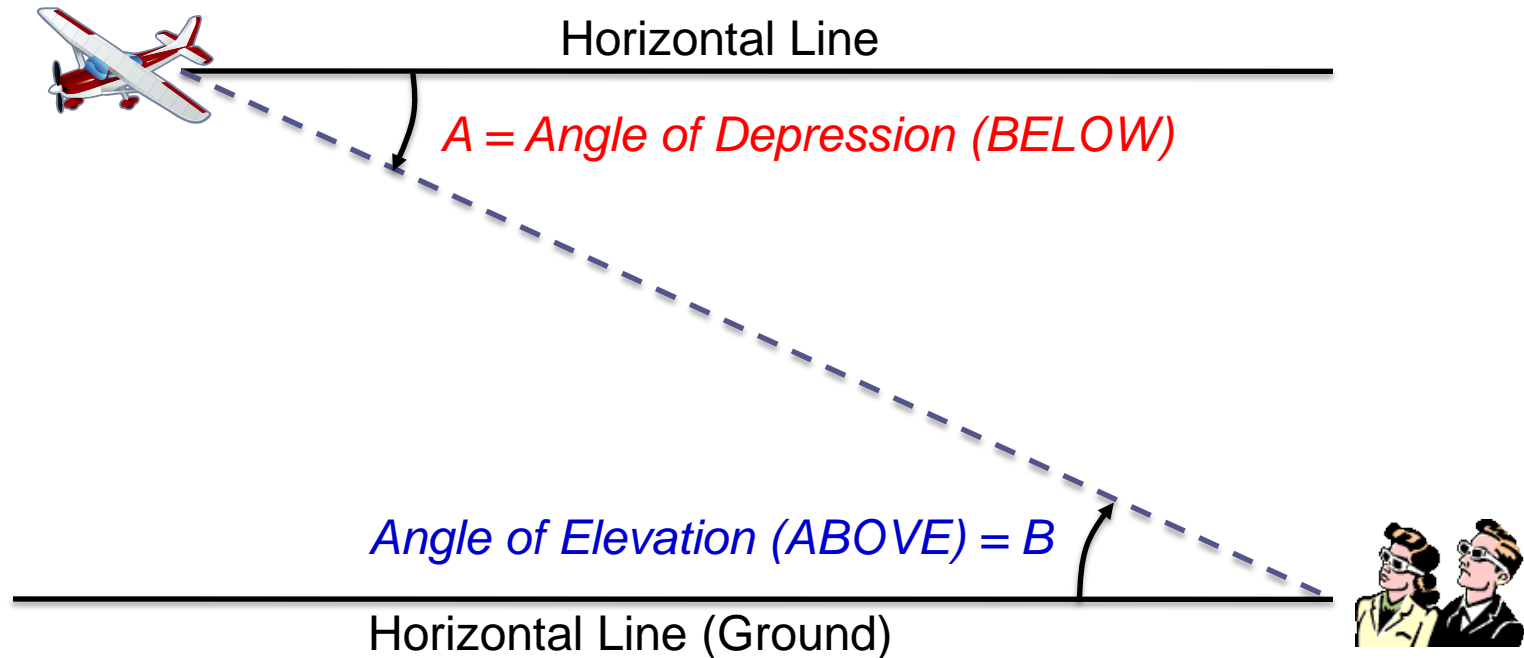
Applied Math – Daily Summary

- **Announcements**
 - **Chapter 13 Test on Thursday!**
- **Class Objectives – What you should learn today!**
 - Review of Quiz
 - Applications of Trigonometry to Applied Problems
- **Assignment**
 - **Section 13.5: 1-10**
 - Read the Problems Carefully...Draw Pictures as Needed!



Angles of Depression & Elevation

- Angle between the horizontal and the line of sight to an object BELOW/ABOVE the horizontal.





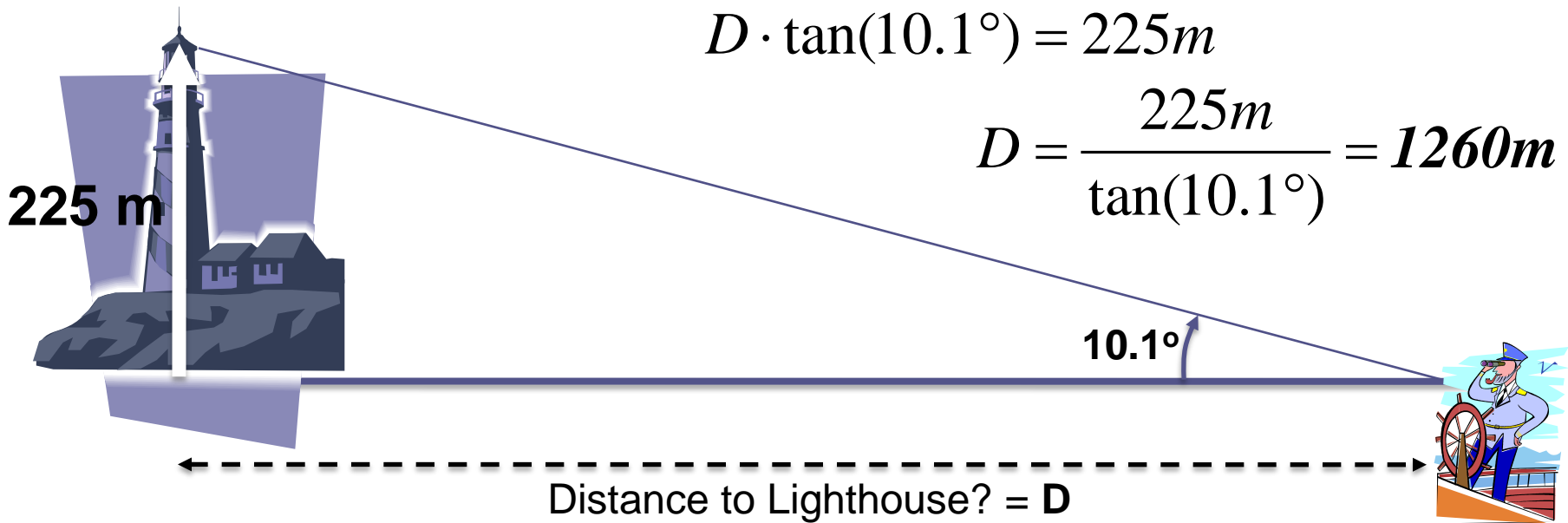
Example #1

- A ship's navigator measure the angle of elevation to the beacon of a lighthouse to be 10.1° . He knows the beacon is 225m above sea level. How far is the ship from the lighthouse?

$$\tan(10.1^\circ) = \frac{225m}{D}$$

$$D \cdot \tan(10.1^\circ) = 225m$$

$$D = \frac{225m}{\tan(10.1^\circ)} = 1260m$$





Example #2

- The roof has a rise of 7.5 ft and a run of 18.0 ft. Find A.

