Pre Calculus

Date:

Items Needed: .Book,

Objective: The students will be able to evaluate trig functions and to use the fundamental trig identities.

PA Common Core: cc.2.2.hs.c.7,

Lesson:

- Remember in the last lesson we did the right triangle definitions to find our values. Today we are going to expand on these.
- Now, remind students about SOH – CAH – TOA
- $\sin\theta = \dfrac{Opp}{Hyp}$, $\cos\theta = \dfrac{Adj}{Hyp}$, $\tan\theta = \dfrac{Opp}{Adj}$, $\csc\theta = \dfrac{Hyp}{Opp}$, $\sec\theta = \dfrac{Hyp}{Adj}$, $\cot\theta = \dfrac{Adj}{Hyp}$
- You can use these to find the exact radian values of any value as long as you are given a right triangle and at least two sides. You may have to determine the other side using geometry.
- Look at example 1 and 2 just to determine the setup of the right triangle.
- In example 2, change the made up side to a 2 and calculate the values.

- Look at example 4. Do calculator conversion and also do the conversion by hand.

- Do the Explore the Concept, p. 276.

- Go over the Fundamental Trig Identities, note my proof for tan 30 =sin30/cos30.
- Discuss how the main Pythagorean Identity is developed and then show students how the other two Pythagorean Identities can be derived from the original.
- Point out that $\tan^2\theta = (\tan\theta)^2$
- Do example 5. Point out how you really don't care what θ is. Later we can determine what the angle measure is.
- Do example 6 & 7 using notes in book.

- Remind students about angles of elevation and angles of depression.
- Do examples 8 thru 10. Set up equation, and solve for the unknown variable.

Assignment: .Have students do 2-6, 9-36 (every 3), 37-52, p. 280.
Have students do 53-57 (odd), 60-66(even), p. 281.
Have students do 77, 78, 79, 83, p. 282
Have students do Modeling Data #84, p. 283.

Evaluation: (Could be from any one/several of the following)

Responses from classroom questions
Results of classroom sample problems
Homework responses
Check answer with Calculator
End of the section exam

Enrichment: