Week 14 Pre-Calc Assignment:

Day 1: Chapter 4 test
Day 2: pp. 360-361 #1-55 odd
Day 3: pp. 360-361 #57-67 odd, 83, 85, 91-99 odd, 103-111 odd, 115-119 odd
Day 4: pp. 367-368 #1-35 odd
Day 5: pp. 367-368 #37-55 odd

Notes on Assignment:

Chapter 4 Test:

Part 1: *With* Calculators

You will be asked to:

- Sketch an angle in standard position and give 2 coterminal angles.
- Convert radians to degrees and degrees to radians.
- Convert decimal degrees to DMS and DMS to decimal degrees (with your calculator or by hand).
- Given the sine of an angle, find the angle. Remember that there are 2 answers because of allsintancos. Use the reference triangles to find the 2nd answer.
- Find the sine of an angle if given a point on the terminal side. (A picture will be given.)
- Use your trig identities and allsintancos to find trig values.
- Use your calculator to find the angle if you know the cosecant of the angle.
- Find trig values of angles on a calculator. (Check the mode of your calculator!)
- Given an equation such as $y = 5 + 2\sin(4x - \pi)$, find the following:
    - the amplitude
    - the vertical shift
    - the period
    - any reflection over the x-axis or another line
    - Is there a horizontal shift?
    - the first interval to be graphed (considering the period and horizontal shifts)
- Find the arcsin, arccos, arctan, arcsec, arccsc, and/or arccot of angles.
- Find the exact value of cot(arccos ¼) without using a calculator. (Draw a triangle with an angle whose cosine is ¼ and go from there.)
- Graph one of the arc functions.
- Solve a couple of right triangles.
- Solve 3 word problems.

Extra Credit: Harmonic motion problem (given the equation).

Part 2: *Without* Calculators

You will be asked to graph 4 trig functions. Show intercepts, asymptotes (if there are any), oscillating lines (if there is a vertical shift), etc. You will have to graph 2 full periods of each function.

Pages 360-361:

#1-13: Hint: Remember that if you know csc θ, then you also know sin θ, because it is the reciprocal of csc θ.

#15-25: Simplify by either changing everything to sine and cosine and/or by using the identities on page 354.

#27-55: As noted, your answer may not be exactly what is given in the solutions manual.

#57-59: Use FOIL.

#61-63: Multiply each fraction by 1 in some form in order to get a common denominator.

#83-85: Substitute for x, then square as the equation indicates. Under the radical, factor out the common constant factor. Simplify the radical using the product rule $\sqrt{xy} = \sqrt{x} \cdot \sqrt{y}$. Solve the simplified equation and find sin θ and cos θ.

#91-93: Refer to the Property of Logs on page 220. Note: The trig functions are all in absolute value brackets to insure that they are positive. If you remember, you can only find the log of positive numbers, so the trig values *must* be positive.

#95-97: Substitute the value of θ into the equation. Use your calculator to find the values and verify the equation is true.

#103-105: Look at the graphs on page 317 to answer these questions,

#117-119: Multiply each fraction by 1 in some form in order to get a common denominator.

Pages 367-368:

#1-39: Refer to the guidelines on p. 362. Remember that it is ok to work with both sides to find where they "meet."

#41-51: To see if these are identities using your calculator, graph each side separately. If the 2 sides give you the exact same graph, then it is an identity. Remember that to graph sec θ, you graph (1/cos θ).

#51: Factor the numerator of the left side using the difference of cubes (wee the inside front cover of the book.)

#53-55: Remember that the sine of an angle is the same as the cosine of its complement.