Math 1275/D500 - Exam #3 Review

FER = Final Exam Review sheet:

- http://www.citytech.cuny.edu/mathematics/docs/review/MAT1275FinalRview.pdf
- try to write out the solutions for the listed FER exercises!

Identify the vertex and graph a quadratic function of the form *y = -x^2 + bx + c*

- FER #2(c)
- example in class

Circles: put an equation in the standard form *(x-h)^2 + (y-k)^2 = r^2* (by completing the squares) in order to identify the center and radius, and sketch the graph

- Circles WebWork: #1-3
- FER #4(a)-(c)
- Algebra textbook: Sec 9.1, Example 4 (p961)

Coordinate plane trigonometry: find the values of the trig functions given the value of one trig function and the sign of another trig function (by first figuring out which quadrant the angle is in, and then using the given trig value to compute *x, y*, and *r*)

- use the "Definitions of Trigonometric Functions of Any Angle" (i.e., for any point *(x,y)* in terms of *x, y, and r*); these will be provided to you on the exam
- CoordinatePlaneTrig WebWork: #4-5
- FER #8(a)-(c)
- Trigonometry textbook: Sec 1.3, Example 6 (p26)
- http://patrickjmt.com/finding-trigonometric-values-given-one-trigonometric-valueother-info-example-2/

Unit circle: using the unit circle to find the values of the trig functions for a given angle

- use the unit circle on the trig handout--this will also be provided with the exam
- UnitCircle WebWork: #4(a)-(d), #5(a)-(d), #6(a)-(d)
- Trigonometry textbook: Sec 3.3, Example 5 (p113)

Trigonometric equations: using the unit circle to find the solutions of a trig equation

- use the given unit circle for these exercises as well
- FER #11(a)-(c)
- TrigEquations WebWork: #1-6
    - note: #1-5 on the WebWork ask for "the principal root" for each equation--this means the single solution closest to the angle 0
    - the exam questions will be stated like the Final Exam Review questions and like #6 of the WebWork: you will be asked to find all solutions in the interval [0,2π)
- http://patrickjmt.com/solving-trigonometric-equations/