Week 7 Pre-Calc Assignment:

Day 1: pp. 160-64 #1-31 odd
Day 2: pp. 160-64 #33-53 odd
Day 3: pp. 160-64 #55-89 odd, 107
Day 4: pp. 174-177 #5-39 odd, 45-57 odd, 67, 69
Day 5: pp. 187-190 #1, 7-11 odd, 23-29 odd, 37, 39, 47, 49, 53, 57, 59, 65-77 odd, 81-91 odd, 103-107 odd, 111, 113

Notes on Assignment:

Pages 160-64:

#7-9: List the possible rational zeros and then list the zeros that show on the graph.

#11-23: To find zeros or solutions, you must factor completely. If you can't factor, use the rational zero test to list possible zeros. Use Descarte's Rule or the Upper or Lower Bound test to help narrow down your choices. Then start doing synthetic division. When you find one with remainder = 0, then use the resulting polynomial to either factor or repeat the process.

#25-27: Graph these on your calculator for part b).

#33-35: Once you find the exact zeros (they will be integers), use synthetic division with one of them. Then use synthetic division again on the resulting polynomial with the next zero.

#43-45: a) no radicals allowed in the factors
b) no i's allowed in any factor
c) use i's and/or radicals if necessary

#45: Use long division with the factor given.

#47-53: Remember that the conjugate must also be a zero.

#55-71: Use the various tests to help.

#73-77: Find the rational zeros using your calculator. Then use synthetic division to divide the factors out for the original function. Continue to use synthetic division on resulting polynomials. Once you get a quadratic factor you can use the quadratic formula.

#79-85: You don't have to actually find the zeros.

#87-89: The bottom row for the upper bound should be all positive numbers or zeros. The bottom row for the lower bound should be alternating positive or negative (zero can count as either.)

Pages 174-77:

#5-11: You don't have to graph these.

#17-19: Remember that zeros are where the function = 0 (ie. where f(x) = 0). This only happens when the numerator = 0, so you need to set the numerator = 0 and solve.

#21-39: To check for symmetry, put in –x. If you get an equivalent function to your original function, then it has y-axis symmetry. If you get the opposite of your original function, then it has origin symmetry. If you get neither, then there is no symmetry. (Note: Because these are functions, there will never be x-axis symmetry.)

#27: You must get a common denominator, so multiply the +2 by $\frac{(x+2)}{(x+2)}$ and combine with the other fraction to get $\frac{2x+5}{x+2}$.

#39: Use synthetic division to factor the denominator. Remember your rational zero tests.

#45-49: You don't have to graph these.

#69: For part (b) you will need the horizontal asymptote.

Pages 187-90:

#1: Put your vertex and point into $y = a(x-h)^2 + k$ to find a.

#7-11: Use Completing the Square. Remember that to find the x-intercept, let y=0. For #9 and #11 you will want to use the quadratic formula.

#11: Factor out the -2 before you complete the square.

#23-27: Only describe the transformation. Do not graph anything.

#37: Factor completely to find the zeros.

#59: Remember that f(-3) is equal to the remainder gotten when you do synthetic division with -3.

#81: Use the quadratic formula.

#107: Don’t find the zeros. Just list the possible number of positive and negative zeros.