MAT 112-Section _____ Spring 2011   **Name** _____
Quiz 1 version A: Sections 5.5 – 5.6
(Zeros of polynomial functions.)   **Seat Location** (Letter & number): _____

_____
20 points
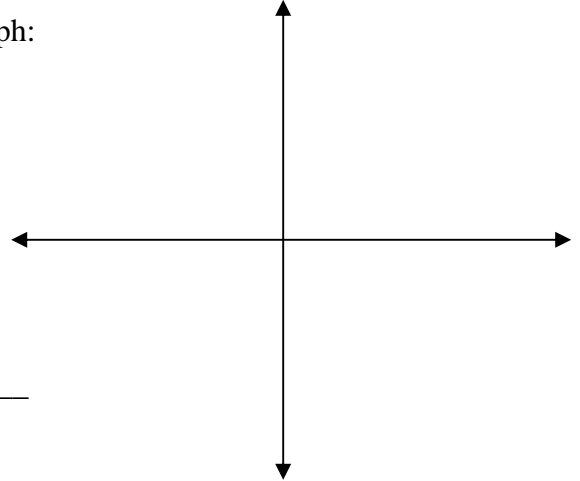**Show all work to receive credit.**
12 points

1. For the following polynomial function, find the following information and then sketch the graph
based on that information. $f(x) = 2x^3 - 11x^2 + 10x + 8$

a. Maximum # of possible zeros: _____   e. Graph:

b. **List all possible** rational roots:

c. What are the correct rational zeros for f(x)? _____

[Determine this using your calculator table or graph.]

d. Write f(x) in completely factored form, with all linear factors.

3 points

2. A polynomial f(x), whose coefficients are real numbers, has degree 6 and has
these four zeros: 5, - 3, 8i and 3 - 4i.   What are the remaining zeros? _____

5 points

3. Determine whether (x - 2) is a factor of $f(x) = 4x^3 - 3x^2 - 8x + 4$. Show you work, using
synthetic division **or** long division **or** illustrate how to determine this using your calculator.