

MAT 112-Section _____ Spring 2012

Name _____

Quiz 1 version A: Sections 5.5 – 5.6

(Zeros of polynomial functions.)

Seat Location (Letter & number): _____

(A-G & 1-5)

_____ **20 points**

Show all work to receive credit.

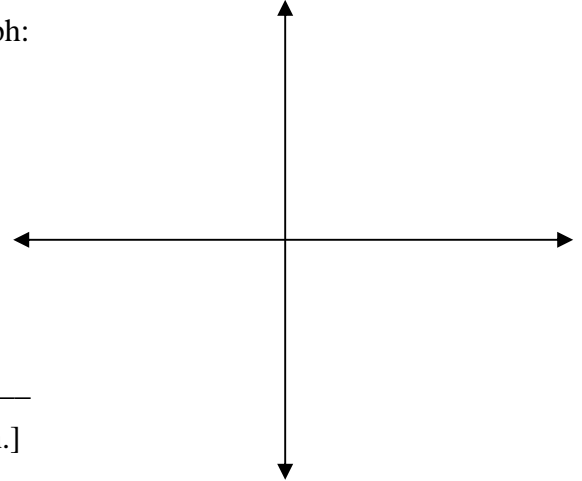
13 points

1. For the following polynomial function, find the following information and then sketch the graph based on that information. $f(x) = 4x^4 - 15x^3 - 8x^2 + 15x + 4$

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 and/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, $4i$ and $2 - 7i$. What are the remaining zeros? _____

4 points

3. Determine whether $(x - 3)$ is a factor of $f(x) = x^3 - 6x^2 - 5x + 9$ by using synthetic division **or** long division. Show your work! Is $(x - 3)$ a factor? _____