Math 111 Quiz 9, Polynomial Functions. TUTORS OKAY! Name: _____

1. Given the polynomial $f(x) = (2 - 3x)(x + 3)^2$, complete the following.

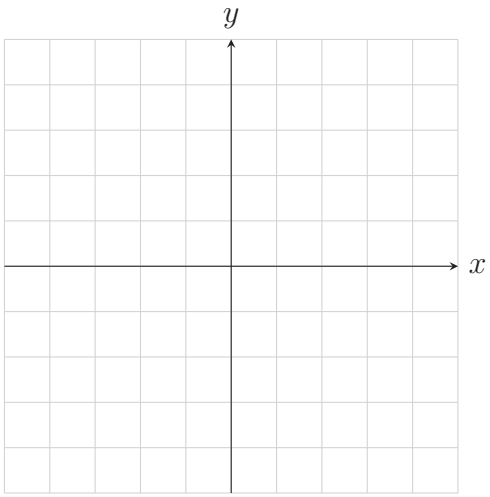
   a. What is the degree of the polynomial? What basic function does it most resemble?

   b. How many turning points, at most, does f have?

   c. What are the zeros of f and the multiplicity of each?

   d. What are the x- and y-intercepts of f?

   e. Graph f using the above information and by finding any additional points, if necessary, to draw a nice smooth curve.



   f. Use your calculator to determine the turning points of f.

2. Use your calculator to graph $f(x) = .5x^3 - 2.3x^2 - 3.64x + 5.21$ and then use it to answer the following questions.

a. What is the degree of the polynomial? What basic function does it most resemble?

b. How many turning points, at most, does f have?

c. What are the zeros of f and the multiplicity of each?

d. Where is f positive and where is it negative?

e. What are the x- and y-intercepts of f?

f. What are the turning points of f?

g. What and where are any local maxs and mins?

h. Where is f increasing and where is it decreasing?