9/25/2000 Dr. Lunsford Name: _____(20 Points Total)

I. Use the <u>definition of the derivative function</u> to find f'(x) where $f(x) = x^2 - x - 1$. Obviously you should get f'(x) = 2x - 1 for your answer! I want you apply the definition of the derivative to derive this answer! (10 points)

II. Using the fact that f'(x) = 2x - 1 when $f(x) = x^2 - x - 1$, find the equation of the tangent line to f at x = 1. Below you are given the graph of $f(x) = x^2 - x - 1$. Graph the tangent line on the same axes, showing all x and y intercepts of the tangent line on the graph. Neatly show all of your work to justify your answers. (10 points)

