Pledge:

12/1/2006MATH261 Calculus IDr. LunsfordQuiz 13

Name: ______(20 Points Total)

I. Use the graph given below to answer the following questions (4 points total).

(a) Using the starting point of $x_0 = 2$, graphically find the next two iterates, i.e. x_1 and x_2 of Newton's Method. Clearly indicate your answers! (2 points)



approximate $\sqrt[3]{7.5}$ by finding a zero of the function $f(x) = x^3 - 7.5$. Please

use $x_0 = 2$ to start Newton's method and list all iterates until you have reached the accuracy of your calculator display. (4 points)

III. Find all possible antiderivatives of the following functions. (4 points each, 8 total)

(a)
$$f(x) = \frac{x^2 + 2x + 10}{x}$$
 (b) $f(x) = \sqrt[3]{x^2} + 3\sin(x)$

IV. A particle is located 5 meters from the origin on a straight path. Starting from rest, it moves along the path with acceleration $a(t) = t^2$ meters per second squared. Find the particle's location from the origin after 2 seconds. (4 points)