Pledge:

10/31/2005 MATH261 Calculus I Name:_____
Dr. Lunsford Quiz 11 (20 Points Total)

I. Find the following antiderivatives. Neatly and clearly show all work. (4 points each)

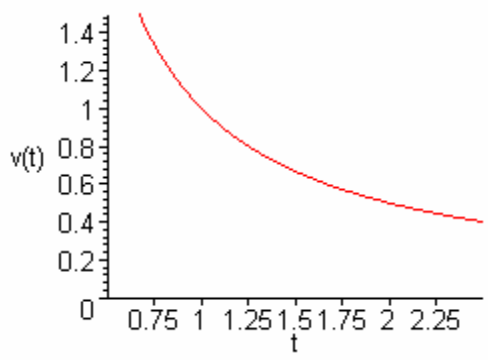
(a) $\int 3e^x - \sin x + \sqrt[4]{x^3}\ dx$

(b) $\int \frac{7-6w+2w^3}{w^2} dw$

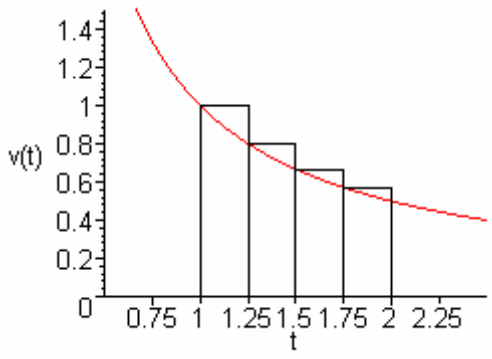
II. Find a function f such that $f'(x) = 8x^3 - 4x + 3$ and $f(2) = 1$. Clearly indicate your answer. (4 points)

III. A particle moves along a straight line with velocity function $v(t) = \frac{1}{t}$ feet per second where t is in seconds. Please answer the following: (4 points each – 8 total)

(a) Find the total displacement of the particle from $t = 1$ to $t = 2$ seconds. Represent this displacement on the graph to your right.



(b) Below you are given the graph of $v(t)$ along with the rectangles for the left endpoint sum (using four equal length subintervals) for $v(t)$ from $t = 1$ to $t = 2$ seconds. Find the value of the left endpoint sum. How will the value compare (larger or smaller) to the displacement you found in part (a) above?



BONUS: What was the best Halloween costume you ever wore? (2 points)