Math 251: Pledged Set 8

Due: March 30, 2010

This is a pledged set. Therefore, no outside help from book, calculator, or other people.

- 1. Estimate the area under the graph of \sqrt{x} from x = 0 to x = 4 using four approximating rectangles and right endpoints.
- 2. Estimate the area under the graph of \sqrt{x} from x = 0 to x = 4 using four approximating rectangles and left endpoints.
- 3. Express

$$\lim_{n \to \infty} \sum_{i=1}^n \frac{\cos x_i}{x_i} \,\Delta x$$

as a definite integral on $[\pi, 2\pi]$.

4. Use Part 1 of the Fundamental Theorem of Calculus to find the derivative of

$$G(x) = \int_{x}^{1} \cos \sqrt{t} \, dt$$

5. Evaluate

$$\frac{d}{dx} \int_{1}^{x^4} \sec t \ dt$$