

Math 251: Pledged Set 11

Due: November 18, 2008

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

1. Explain exactly what is meant by the statement that “differentiation and integration are inverse processes.”
2. Use Part 1 of the Fundamental Theorem of Calculus to find the derivative of

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

3. Evaluate

$$\frac{d}{dx} \int_1^{x^4} \sec t \, dt$$

4. Evaluate

$$\int_1^8 \sqrt[3]{x} \, dx$$

5. Find the general indefinite integral of

$$\int x^{-1} \, dx$$