MATH 251: Quiz 4
March 12, 2015

Name: _____ Sec: _____

1. Evaluate the integral

$$\int_0^4 \int_1^3 3x^2 + 2y + 1 \; dx \; dy$$

2. Let $\mathcal{D} = \{x^2 + y^2 \leq 4, \; x \geq 0\}$. Evaluate the integral

$$\iint_{\mathcal{D}} 1 \; dA$$

[Hint: Sketch the region and think about what this integral computes.]

3. Evaluate the following integral by changing the order of integration. You will also likely need integration by parts.

$$\int_0^1 \int_0^2 \frac{x^3}{1 + x^2 y} \, dx \, dy.$$