Name: _____ Math 234 Quiz 8

Section: 328 ☐ 329 ☐ Nov 6, 2014

1. (20 pts) Compute the following double integrals.

(a) $\iint_D 2xe^y dA$, where $D = \{(x, y) : 0 \leq x \leq 1, 0 \leq y \leq x^2\}$.

(b) $\iint_D y^2 \cos(x^2) dA$, where $D = \{(x, y) : 0 \leq y \leq 100, y^3 \leq x \leq \sqrt{\pi}\}$.

Bonus. (5 pts) Find the volume of the unit ball $x^2 + y^2 + z^2 \leq 1$. (*Hint: view the upper hemisphere as a graph*)