Math2210 Quiz 9 (Section 13.1, 13.2, 13.3) Summer, 2012 Dylan Zwick

Name _____ Date _____

Instructions: Please show all of your work as partial credit will be given where appropriate, **and** there may be no credit given for problems where there is no work shown. All answers should be completely simplified, unless otherwise stated.

1. (*15 points)* Take the region $R=\{(x,y): 0\le x\le 4, 0\le y\le 8\}$, the function $f(x,y)=x^2+2xy-y+x^3$, and the partition P of R into eight equal squares by the lines x = 2, y = 2, y = 4, and y = 6.

   Approximate $\iint_R f(x,y)\,dA$ by calculating the corresponding Riemann sum $\sum_{k=1}^{8} f(\bar{x}_k,\bar{y}_k)\Delta A_k$, assuming that $(\bar{x}_k,\bar{y}_k)$ are the centers of the eight squares.

Answer: _____

2. Evaluate the following integrals.

(a) $\int_0^3 \int_1 (x^2 + x + y + 1)\, dx\, dy$. *(10 points)*

Answer : _____

(b) $\int_{-1}^{1} \int_{-x}^{2-x^2} (x + y)\, dy\, dx$. *(15 points)*

Answer: _____