Warm-up Problems - February 22, 2006

Extra Credit?
(If my signature is here write down your name turn it in for extra credit. No signature? Arrive earlier!)

1. Find the average value of $f(x) = x^2$ over the interval $[1, 3]$. (What is the formula for average value?)

Lecture Problems

2. Set up the integrals and integrate both ways (x first y second, then do y first and then x).

   (a) $R = \{(x, y) : 1 \leq x \leq 4, -1 \leq y \leq 0\}$

   $$\iint_R 3x + y \, dA$$

   (b) $R = \{(x, y) : -1 \leq x \leq 4, -2 \leq y \leq 1\}$

   $$\iint_R 3x^2y^2 \, dA$$

3. Find the average value of the functions over the rectangles in Problem 2.