Name: July 2, 2015 MAC 2313.8326 Cyr

Quiz 7 You must show all work to receive full credit!! **Problem 1.** (3 pts) Evaluate the iterated integral  $\int_1^2 \int_0^2 (x^2 - y^2) dy dx$ .

**Problem 2.** (3 pts) Find and classify the critical points of  $f(x, y) = \ln x + 2 \ln y - x - 4y$ .

**Problem 3.** (4 pts) Use the method of Lagrange multipliers to find the minimum and maximum values of the function f(x, y) = xy subject to the constraint  $4x^2 + 9y^2 = 32$ .