Name: March 17, 2016 MAC 2313.9256 Cyr

Quiz 9 You must show all work to receive full credit!!

Problem 1. (2 pts) Rewrite the integral by changing the order of integration: $\int_0^2 \int_{x^2}^{2x} f(x, y) \, dy \, dx$. (You may find it helpful to sketch the domain of integration.)

Problem 2. (3 pts) Set up the bounds of the triple integral $\iiint_{\mathcal{W}} ydV$ where \mathcal{W} is the region bounded by the cone $z = \sqrt{x^2 + y^2}$ and the plane z = 4 with non-negative y-coordinates $(y \ge 0)$. DO NOT EVALUATE. (You may find it helpful to sketch the domain of integration.)

Problem 3. (5 pts) Evaluate by using polar coordinates: $\iint_{\mathcal{D}} (x - y) dA$, where $\mathcal{D} = \{x^2 + y^2 \leq 9, y \geq 0\}$. (You may find it helpful to sketch the domain of integration.)