Name: April 9, 2015 MAC 2313.3122 Cyr

> Quiz 12 You must show all work to receive full credit!!

Problem 1. (5 pts) Compute $\int_{\mathcal{C}} f ds$ where $f(x, y) = \sqrt{1 + 9xy}$ and \mathcal{C} has parametrization $\mathbf{c}(t) = (t, t^3)$ for $0 \le t \le 1$.

Problem 2. (5 pts) Compute $\int_{\mathcal{C}} \mathbf{F} d\mathbf{s}$ where $\mathbf{F} = \langle 3zy^{-1}, 4x, -y \rangle$ and \mathcal{C} is the oriented curve with parametrization $\mathbf{c}(t) = (e^t, e^t, t)$ for $0 \le t \le 1$.