Math 251
Quiz 10 November 30, 2016

Name:

By handing in this quiz you assert that you understand and have followed IIT's guidelines for academic integrity.

(1) Use Green's Theorem to evaluate $\oint_C \vec{F} \cdot \vec{dr}$, where $\vec{F}(x, y) = \langle x^4 + y, 4x - e^y \rangle$ and C is the unit circle centered at the origin.

(2) Compute $\iint_\Sigma x^2 z^2 \, dS$, where Σ is the portion of the cone $z = \sqrt{x^2 + y^2}$ with $z \leq 1$.