Math 335-002
Homework #14
Due April 2, 2008

1. Problems 5.8, 5.9 and 5.11 on page 98.

2. Verify the Stokes theorem by calculating both the surface integral and the closed loop integral for vector field $\vec{u} = (0, 2x, z)$, with surface S given by $z = 2 - 2x - y$, enclosed in the 1st octant. Note that the line integral breaks down into three separate pieces.

3. Verify the Stokes theorem (Green's theorem) for a ring enclosed between two concentric circles of radii 1 and 2, with the field $\vec{u} = (y, x^2, z)$: