Physics 360/Math 360 MF 12:00 - 12:50 PM, W 2:30-3:20, Room: CST 314

Instructor: Michael Lerner, CST 213 221, Phone: 727-LERNERM

Name: _____

Assignment 9, Due Wednesday March 29th at the beginning of class

1 Vector Calculus, part II

1.1 Finishing our in-class problem

We evaluated a line integral around several paths in class. Use the parabola as the bottom of a region, and the edges of the rectangle as the left side and top fo the region, and explicitly verify Green's Theorem for the field discussed in class.

1.2 Conceptual Understanding

In the style of Fenyman, and including pictures, write out a proof of either the divergence theorem or Stokes' theorem. You're free to spend as much time studying Feynman as you like *before* doing this problem. But, while you're writing it out, you must put away all references. You can re-do the problem until you've completed it fully in a "closed-notes" fashion.

1.3 Green's theorem in the plane

Boas starts out with Green's theorem in the plane. Look at her section. Explain how one can derive that from what we covered in Feynman.