Math 518: HW 11 due Wednesday, November 19, 2014.

Note: No class Friday November 14. Instead, read through the "Divergence Theorem" section in Chapter 16 of Lee (very bottom of page 422 through the top of page 426).

1. On the last HW, you solved Exercise 14.28 of Lee on page 368. Use your results there to show that the four integral theorems of vector calculus (The Fundamental Theorem of Line Integrals, Green's Theorem, Stokes' Theorem, and the Divergence Theorem, as stated in e.g. Stewart's *Calculus*) all follow from the general manifold version of Stokes' theorem proved in class on November 12.

2. Problem 16-10 of Lee on page 435.

3. Problem 16-11 of Lee on page 436.

4. Problem 16-19 of Lee on page 438. You may assume the results of Problem 16-18.

5. Problem 16-21 of Lee on page 438. Again, you may assume the results of Problem 16-18.