

V63.0123-1 : Calculus III. Homework 11

Last one! Due Wed Apr 30 at lecture.

17.5: (Review curl and div)

26.

17.7: (Surface integral)

12. Trickier scalar surface integral

21. Simpler vector surface intergal

17.8: (Stokes Theorem)

3.

4.

6. This should suddenly become quite easy!

7.

9.

18. Longer. Once you get a double integral, decide which coord system to use for it. Look for symmetry before evaluating messy single integrals.

17.9: (Divergence Theorem)

4. You'll probably need to correct errors until this comes out right. It's pretty nice how it does!

6. If you can recognize something about \mathbf{F} as it crosses the sphere surface, this will help.

9. Quick.

16. Evaluate $\text{div } \mathbf{F}$ before you switch to a new coordinate system.

26. Remember D_n means derivative in the normal direction. This question is mainly explaining notations. Please be clear.