Math 2573H   Honors Calculus III   Fall Semester 2018

Assignment 11 - Due **Tuesday** 11/27/2018. There will be no quiz during the week of Thanksgiving. There will be a quiz on Tuesday 11/27.

Exercises from Colley:
6.2: 15, 17
6.3: 26, 32
7.1: 2, 4, 21, 23, 26, 28
7.2: 4, 8, 10, 14, 16, 20, 24

If we get that far:
7.3: 4, 8, 12, 14, 17, 20
7Misc: 22

Notes
I have added two questions from 6.2 about using Green's theorem to compute area, because there were no questions of that type in the previous list. Also I added a couple of questions from 6.3 for a similar reason.

I find section 7.1 frustrating in some ways. Most of what is done in this section are things we already know. We know that surfaces (as well as 'manifolds' of other dimensions) can be given in two ways: as the image of a parametrizing function and as the level surface of some function. There are subtleties with both approaches which the treatment we are following has mainly avoided, but never mind. To compute integrals directly we need to use parametric descriptions, and that is why they are studied here. You have to be able to find tangent planes and their normal vectors, but we already know how to do this. What is new to us in 7.1 is the method of computing surface area done at the end of the section. As with computing the length of a curve, the integral which arises has a square root in it which makes the integral usually impossible to evaluate by symbolic means.

HAPPY THANKSGIVING!