Math 2573H   **Honors Calculus III   Fall Semester 2020**

Assignment 11 - Due **Tuesday** 12/1/2020. There will be no quiz during the week of Thanksgiving. There will be a quiz on Tuesday 12/1.

Do the following exercises from Colley:
6.3: 3, 6, 18, 20, 26, 32, 37
7.1: 2, 4, 21, 23, 26, 28
7.2: 4, 8, 10, 14, 16, 20, 24

Upload to Gradescope only the following 10 questions:
6.3: 18, 26, 32, 37
7.1: 2, 21, 26
7.2: 10, 14, 16,

Notes
We are going on to surface integrals, and section 7.1 is preparatory for this. 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 for parametrized surfaces, and there are two related ways shown to do this, in the text and in the exercises. What is really 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!