Math 2574H   Honors Calculus IV   Spring Semester 2016

Assignment 7 - Due Thursday 3/10/2016

Exercises from Edwards and Penney:

4.3: 4, 5, 11, 13, 19, 24. Consider also but do not hand in: 28, 29.
4.4: 2, 5, 8, 9, 13, 19. Consider also but do not hand in: 29, 20, 33, 34.

The hardest thing in linear algebra may be to understand why various equivalent statements are true. We are presented with different conditions for a set of vectors to be independent, or to be a basis, or to span a space. I am not testing you on proofs of these things, but it is important to be able to recognize in several different ways when a set of vectors must be linearly independent, or whatever. This probably requires understanding! With this in mind I have put some problems for you to consider, but not hand in (unless your TA thinks you really should!). These problems are to help with the understanding. The sort of question I could ask you on an exam about this kind of thing would be along the lines of TRUE/FALSE: a set of vectors satisfying such and such a condition must be independent / a spanning set / a basis.

Spring Break intervenes!

Assignment 8 - Due Thursday 3/24/2016

Exercises from Edwards and Penney:
4.5: 2, 5, 15, 17, 19. Consider also but do not hand in: 27, 30, 31, 32.
4.7: 1, 4, 7, 9, 10, 14, 16, 23.
5.1: 3, 10, 25, 33, 35.

Section 4.6 has a number of things like the Cauchy-Schwartz inequality which are done in Calculus III, and we will not study this section here.