Math 2573H Honors Calculus III Fall Semester 2018

Assignment 2 - Due Thursday 9/20/2018

Exercises from chapter 1 of Colley:
1.5: 2, 3, 6, 8, 12, 13, 16, 19, 20, 24, 28, 32
1.6: 9, 11, 16, 18, 23, 28, 30, 31, 32, 36
1.7: 2, 4, 9, 12, 18, 26, 27, 32, 42
1.Misc: 22

Notes:
In section 1.3 Colley defines the vector projection of b onto a and introduces a special notation for it. She gives a formula for it as well on page 22: formula (5). You need to know about projecting a vector in a given direction, but you do not need to know Colley's notation for it (it is not standard). As for the formula, I personally think it is better to understand how these things work and be able to compute whatever you want from that understanding: I do not like memorizing a formula. For this reason I don't like it that she has introduced the formula. However, if it works better for you, by all means memorize it. We will see the projections of vectors quite a lot, especially when computing distances in section 1.5.

In section 1.5 there are many combinations of planes and lines etc. where something can be calculated and I have tried to give exercises that demonstrate each of these, including the exercise 22 from the Misc section.

The treatment of matrices and determinants in section 1.6 is very brief, but it will have to do for now. Also, you may find questions 9 and 11 from 1.6 hard, and these may be good things to go over with your TA.