

1. Look back on the worksheets and find a problem with at least three parts to it. Then, write up a solution to this problem. If the problem has more than three parts, you only need to explain your favorite three parts.

Your answer must include a restatement of the problem, problem number, and all relevant definitions. Further, include an introductory paragraph explaining why you chose this problem, and what learning objectives you think the problem deals with—at least one of the learning objectives you list must come from the list of learning objectives posted on the course webpage.

2. We've come a long way in this course—we've gone from row-reduction to matrix equations, from spans and linear independence to eigenvectors and diagonalization. I would like you to write about how this course fits together, what the main ideas are, and what the topics you found most difficult are.

Imagine you are writing a letter to a parent/aunt/uncle who has taken technical math/science courses in the past, but has forgotten most of the terminology. Write to this audience explaining what Math 211 is about, and highlight the main ideas in the class (when writing to non-technical audience, examples are key). In your essay, please do the following:

- (i) address at least one of the three over-arching LEARNING OUTCOMES listed on the course syllabus and whether you feel you've achieved that learning outcome;
- (ii) include one technical math definition written in both math language and explained with plain English
- (iii) explain, for at least one linear algebra concept, how it can be viewed geometrically *and* algebraically.

Your essay should be 1–2 pages in length and start on a new page (i.e., problem 1 gets its own page(s) and this essay gets its own pages). To help you set the mood, start your letter with,

Dear Mom,

This term at UVic I've been taking Math 211, which is a course about...

Of course, if you're inspired to start your essay a different way, feel free to! You should have fun with this essay. After all, how often do you get a chance to explain to others and yourself what a university course really taught you?

Some guidelines on how your essay will be judged:

Acceptable: Correctly identified a learning outcome from the syllabus and conveyed to the reader whether or not you have achieved it; gave a definition in mathematical and plain language; gave an example of a concept that we view geometrically and algebraically.

Good: Correctly identified a learning outcome from the syllabus and explained clearly *why* you have or have not achieved it; gave a definition in mathematical and plain language and explained *how* this definition relates to solving linear algebra problems; gave an example of a concept that we view geometrically and algebraically.

Excellent: Correctly identified a learning outcome from the syllabus, discussed *how* this learning outcome connects to specific material or themes from the course, and explained clearly *why* you have or have not achieved it; gave a definition in mathematical and plain language and explained *how* this definition relates to solving linear algebra problems and *how* definitions play an important role in linear algebra; gave an example of a concept that we view geometrically and algebraically and explained *how* having a geometric and algebraic viewpoint of the same concept is useful.