

Digest 5

(A compilation of emailed homework questions, answered around Wednesday.)

Question. [Homework 4, Exercise 5] A lighthouse sits 1 mile from the shore. Let P be the point on the shore that is closest to the lighthouse. The light completes four revolutions per minute, at a constant speed. How fast is the light moving along the shore, when the light is 1 mile above the point P ?

(From a student): I am confused about the picture here.

Answer. This problem could have been worded better.

Basically, the lighthouse is sitting one mile from the shore. Let Q be the point where the light hits the shore. When the light is 1 mile above the point P , then the lighthouse, P and Q should form a right isosceles triangle, with edge lengths 1, 1 and $\sqrt{2}$. I hope this explains things a bit better.

Question. (From a student): Are the scores on myUCLA already curved? As in, how will we find out which letter grade are we getting?

Answer. The exam scores on myUCLA are not curved. Any curving is done at the end of the quarter. However, if you want a rough approximation of your letter grade on the exam, then I will explain such an approximation in class on Monday. Basically, the median was 25 with a standard deviation of 11. So, roughly speaking, a 36 is an A, a 25 is a B, and a 14 is a C.

Question. (From a student): I am unhappy with my midterm grade, and I would like a regrade.

Answer. If you would like a regrade, then either send me an email or write out your comments on paper, and also return the exam to me. On the basis of the written comments alone, the exam will be regraded in its entirety. And the grade could go up or down as a result.

Also, the TAs have the exams, so you will get them back from the TAs.

Lastly, remember that, as noted in the syllabus, the exam can only be regraded at most 15 days after the date of the exam.

Question. (From a student): I am unhappy with my midterm performance due to medical reasons; can I retake the exam?

Answer. No. One grading scheme allows one midterm to be dropped entirely, and this is meant to account for illnesses, emergencies, etc.

In the future (and this applies for your other classes too), if you are gravely ill, etc. then you should notify the instructor before the exam, rather than afterwards. Then it is easier to try to work something out (though, as I just mentioned, the final grade is computed in a way to forgive poor performance on one midterm). Also, a mild illness that could be ameliorated with over-the-counter medications is typically insufficient to merit an alternate examination date.

Question. (From a student): I am unhappy with my midterm grade. How could I perform better on the next exam?

Answer. Other than the “advice” section of the syllabus, I would recommend trying the following things:

- Start studying for the exam roughly a week before the exam. Study your notes and/or the book. Make your own study guide, i.e. a page or two that summarizes all of the main topics, which can be easily re-read for studying later in the week. (Simply creating a study guide like this will help you focus on the main topics.) Brush up on more confusing things. Do a good mix of easy/hard exercises during the week. After you have done this preliminary studying, take two or three practice exams, and time yourself to try to mimic our testing situation. Your results on the practice exam should then inform which topics you should go over again. It is especially important to try doing hard problems (the practice exams should help you to get an idea of what I mean by a hard problem; also the “additional and advanced” exercises in the textbook should be a bit harder sometimes).

- I would recommend studying most intensely two days before the exam.

- The day before the exam, I would recommend not studying very much, to conserve your energy.

- The day of the exam, maybe do some “light review” in the morning, but nothing too strenuous.

- During the exam, think before you act. Deciding how to approach a problem, i.e. eliminating potentially bad strategies, can save you a lot of time. Also, during the exam, it may be best to go through the exam rapidly, and then go back later to questions you had the most trouble with. (I usually try to put the hardest questions at the end, so that you won't get hung up on an early difficult problem.) These things can help a lot for a midterm, when time is limited.

- I think it is also helpful to have a sugary or caffeinated drink in the exam, to stay awake.

- Some exam questions are meant to mimic the homework. Other exam questions are meant to be different from the homework, to try to test your understanding of the material, and your ability to extend your understanding. Some questions are meant to be difficult. (For example, only a few people got the last two questions on the midterm.)

I hope this is helpful. Also, I should caution that it is easy, especially in math classes (and I find myself doing this sometimes too), to feel like I understand something, but then when I

am asked to do something fairly complicated, then I am unable to do it. This feeling applies really to any class though. If you can complete the homework and a few exercises, it may feel like you understand certain things, but it may also be that there are certain things you missed and you are unaware. I don't expect everyone to obtain complete mastery of calculus in ten weeks, but part of the goal of studying and doing hard problems is to find the gaps in your knowledge, and to fill in the gaps accordingly. Math is difficult and getting details and developing understanding is hard, but I believe if anyone follows the correct procedures, then they have the ability to learn this stuff (and do well on exams).

Question. (From a student): I have been working hard for maths since the beginning of the quarter but my grades haven't really been satisfying to me. I was wondering if we were going to get any extra credit opportunity this quarter.

Answer. Since the class is curved, an extra credit assignment available to everyone wouldn't really give out any "extra credit." If you would like, you could think of a hard exam question or a hard homework problem as extra credit.

As for improving your performance, see the above response, and consider improving your study habits. If you are truly working hard already, by e.g. putting in 10-15 hours of studying a week outside of class, then maybe you should adjust your study habits to work on more difficult problems, as mentioned above.