

Digest 6

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

Question. (From a student): Other than things already mentioned in the digest, how can I improve my performance in this class?

Answer. There are a few immediate things you could do. One is to increase the amount of time you are putting into studying outside of class. If you are not doing well in the class, you could maybe aim for around 10 hours a week. The second thing you could do is go to office hours (of mine, of the TAs, and of the student math center). When you are doing the homework or getting extra help through office hours, your goal should be to understand the problem and how to come up with the solution. That is, your goal with extra help should not simply be to get the answer to get the homework done. I don't expect every person to be able to solve every problem, and this is why we have office hours, but any activity which allows you to passively get the answer to a question will not teach you anything. In particular, if you ask for the answer to some question at office hours, you should have thought about that question for at least 30 minutes already. If you haven't done this, then you might not learn anything, and as a result you might not do well on the exams.

There is a saying that mathematics is not a spectator sport. In other words, the best way to learn mathematics is to do mathematics.

Question. (From a student): The syllabus does not clarify whether the two lowest homework grades dropped includes quiz grades, although the gradebook makes it seem as though quizzes are included in that policy, since quiz grades are simply inputted under homework grade. Could you clarify for me whether the lowest two quiz/homework grades are dropped or whether solely the lowest homework grades are dropped?

Answer. As the syllabus states, the quiz score counts as a homework grade for that week. By the end of the quarter, you will therefore have 8 homework grades (four of which were quizzes). Of these 8 homework grades, the lowest two are dropped.

Question. (From a student): The practice exams you sent before do not seem as difficult as your exams. Could you send more difficult practice exams?

Answer. I thought at least some of the others were difficult, but okay, here are some more difficult practice exams. As usual, the content in these other exams may be slightly different than our exam, i.e. some questions may require something we haven't covered, or the material covered may be in a different ordering. For example, inverse functions are not covered in this class, derivatives of the logarithm are not covered in this class either, but they are mentioned in some exams below.

Exam

Solutions

Exam (skip 2d) (In question 5, we have a right triangle with vertices A, B, C , where the right angle occurs at vertex C . Alice is at vertex A , Bob is at vertex B , and θ is the angle of the triangle at vertex A .)

Solutions

Exam (skip question 4)