Digest 10

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

Question. (From a student): For the Limit Comparison Test, when you choose b_n is it supposed to be bigger than a_n?

Answer. No, not necessarily. The Comparison Test requires $0 \leq a_n \leq b_n$. However, the Limit Comparison Test only examines the limit $\lim_{n \to \infty}(a_n/b_n)$ where $a_n \geq 0$ and $b_n \geq 0$. That is, you are only looking at the quotient a_n/b_n when n is very large.

Question. (From a student): For the final, will you not be testing us on the things you weren't testing us on the midterms? For example, for midterm 2, through email you said you weren't testing us on things like say error bound for Taylor Poly's. Do those comments on things that weren't going to appear in the midterms still apply for the final.

Answer. Yes, the comments for previous midterms apply for the final. For example, I won't expect you to know the error bound for Taylor polynomials, but I could potentially give you the error bound formula and expect you to understand how to use it.

Question. (From a student): Would you be able to put together a helpful selection of practice problems from the book? From the section problems or end of chapter problems. I would really appreciate that.

Answer. I could but it would just be a random selection of the "additional and advanced" exercises from the end of chapter questions, so presumably you could randomly select problems from those sections yourself. Also remember that there are several practice finals linked from the course website.

Question. (From a student): You mentioned in your Stuff about the Final announcement that the expectations of what we need to memorize is similar to previous exams. Does that mean that topics such as Exponential Growth & Decay and Compound Interest will not be tested on the final?

Answer. Exponential Growth & Decay and Compound Interest were covered on previous homeworks, so they could also be covered on the final.

Question. (From a student): Which of the tests for finding convergence and divergence would you consider the most important for the test? because the comparison test is confusing me.

Answer. I think the ratio test and the integral test are the two most important ones, maybe followed by the divergence test. The other ones can be important sometimes too; comparison is good, but those first three are probably the most useful.