Homework Assignment 18

Assigned Tuesday February 4; not to be submitted.

web version: http://www.math.toronto.edu/~drorbn/classes/0203/157AnalysisI/HW18/HW18.html

Required reading

Reread the handout About the Second Term Exam. Everything there applies also to the upcoming Third Term Exam.

Recommended for extra practice

- Read, reread, re-reread and convince yourself that you really, really really, really really really, understand everything in Spivak's chapters 1 through 19 (excluding chapters 16 and 17).
- Again spend 20 minutes a day over the next 7 days doing extra parts of problems 1–9 of Chapter 19. Never finish your work!!! Just get to the point where you are convinced that you know how to continue. In particular, avoid writing what you can do in your head and don't bother to simplify your results.
- For what it's worth, review last year's third term exam, available on the web version of this assignment.

Just for fun

We all know that $3\frac{1}{7}$ is a very good approximation to π; in fact, it is not difficult to find people who think that π *is* $3\frac{1}{7}$. Prove them wrong, and also decide which one is bigger (π or $3\frac{1}{7}$) by computing the integral

$$\int_0^1 \frac{x^4(1-x)^4}{1+x^2}dx.$$