

PMU 199 Aha! Mathematical Discovery and Creative Problem Solving
Assignment 1

Prof. McCann

Due: Thursday Jan. 12, 2017

NOT TO BE HANDED IN: Read and work out the first three problems of section §1.1 of “The Heart of Mathematics” (hereafter “Heart”). Consult the hints in §1.2 for these problems if necessary and the solutions in §1.3 only as a last resort. Mathematics has a puzzle-like quality. You’ll learn more and broaden your experiences by approaching mathematics as an active participant — by doing it yourself — rather than passively — by reading about how someone else has done it. (You wouldn’t want to read about the method someone else used to solve a crossword puzzle before you’d attempted it yourself; it’s good to acquire the habit of approaching all your mathematical reading that way.)

TO BE TURNED IN: §1.4 # 8, 15 (a challenging BONUS problem!), and §2.1 #16–18

Always justify your answers as completely as possible with logical reasoning, and organize and present your solutions as cleanly and neatly as you can.

ELECTRONIC JOURNAL PROCEDURE:

Each week you’ll be expected to make a journal entry ranging from half a page to a page documenting your reactions to the material in the course. How has the course affected your perceptions of mathematics? How has it affected you? Have there been any unexpected surprises?

Four times during the semester I will be expecting you to email ONE such journal entry to me at mccann@math.toronto.edu. It can be any one of the entries from the preceding three week period. These will be graded only on a SATISFACTORY / UNSATISFACTORY basis. However, they will help document your progress in the course and keep me in touch with your experiences, while also giving you an opportunity to work on your writing skills. These journal entries will be due on the following schedule:

Schedule for journal entries:

First entry due by Friday Jan. 20;

Second entry due after Jan. 21 and on or before Friday Feb. 10;

Third entry due after Feb. 11 and on or before Friday Mar. 3;

Final entry due after Mar 4 and before Friday Mar. 24.

In the event you are forced to miss one or more lectures for any reason other than medical (with written documentation), your attendance and participation grade will suffer. However, one absence will be excused if you send me an email explaining the reason for your absence along with an additional journal entry above and beyond those described above. If you follow the same procedure with additional absences, I may or may not choose to excuse them at my sole discretion. Missed quizzes cannot be made up, and will not be excused except for documented medical reasons. Assignments are expected to be turned in on time even if you are absent, and in exceptional circumstances can be scanned and e-mailed to the professor at mccann-AT-math-DOT-toronto-DOT-edu, or failing that, FAXed to his attention at (416) 978-4107.