

MATH 8301 Homework I

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1.)

Prompt. *What year of grad school are you in?*

My first.

2.)

Prompt. *Do you have an idea of what area of mathematics you aim to work in?*

Tenatively, combinatorics, but now that the application process is fully over, etc., I've been much more open to the idea of ending up in a different specialty. Right now, I imagine that whatever it is will be something generally on the algebraic side of things, but that's quite broad and I don't know if I'm even ready to narrow it down more than that.

3.)

Prompt. *Do you know what you intend to do after graduation?*

I'd love to go into a career in mathematics teaching and research, possibly at a liberal arts college. As a back-up option, I would be interested in a Kerouac-Erdős hybrid lifestyle of proving theorems whilst stowing away in cargo train cars and publishing in the form of endless, unedited scrolls to be passed around the mathematical drifter community.

4.)

Prompt. *What's been your favorite math class? What's been your least favorite?*

Is it a cop-out to declare a tie for first? My favorite classes thus far have been Advanced Algebra and Algebraic Topology, both of which I took while studying in the Budapest Semesters in Mathematics program, and the latter of which was designed to be an “impressionistic sketch of the subject so that we (the students) are less terrified of it when we take a real algebraic topology class in grad school.” I also greatly enjoyed sitting in on Dennis Stanton's 8669 course while I was taking two trimesters away from Carleton. I think my least favorite course would have to be Mathematics of Democracy at Carleton—first-years at Carleton are required to take one of the “argument and inquiry” classes offered by a number of departments around the college, and this one was severely hamstrung by its lack of prerequisites. There is only so much one can say about Arrow's theorem without going into the rigorous proof thereof at all.

5.)

Prompt. *Do you have any concerns or worries about this class that you want me to know about?*

Nothing comes to mind!

6.)

Prompt. *What do you want to get out of this class?*

Well, obviously I'm looking to complete the preliminary requirement in the subject, but beyond that, I'd like to explore Algebraic Topology as a potential field of specialization. I also hope that taking this class in tandem with Commutative and Homological algebra will give me an expanded understanding of the motivation for the latter of these topics as well as a more comfortable grip on the algebra of Algebraic Topology.