

GROUP PROJECT ASSIGNMENT : ADOPT A PIECE OF MATH

AN ASSIGNMENT FOR MATH 1200 FROM A DESIGN BY LILY MOSHE FOR MATH 2590

Each of you should be able to find some mathematics you love. It might be some mathematical facts, mathematical concepts, puzzles or problems, “magic tricks,” art or music pieces which have mathematical content or which can be analysed using mathematical means, mathematical procedures or applications, shapes...anything with mathematical content that you find engaging and/or meaningful.

Your task is to adopt it, i.e., to learn as much as you can about it and to do an original investigation inspired by it. You are then to prepare a presentation at the (mathematical) level of first year mathematics majors. You are encouraged to ask me or Dorota for resources and for help with anything that you might find confusing.

This is a group project. The group size is two. Find someone from the class with whom to form a group. Look for someone who shares your mathematical interests and whose level of ability is close to yours and who works at a pace with which you are comfortable. You are to agree on the topic between you. The names of the two people and the topic chosen are to be submitted before April 6. My suggestion is that you find someone with whom to work first and then discuss possible topics between you. Dorota and I will be available to help you pin down your topic. The topic should be one which provides an opportunity for creativity. Each group is required to meet to review progress with Dorota or me before April 6th. Failure to meet either of these requirements will result in a 2 point reduction in the Group Project grade. The project has three components.

The first is your research. Your report should communicate what you have learned. It should include clear explanations and (where applicable) proofs. It must contain original (creative) work. One model for a report is the Fred and Frank discussion which is posted on the course web page for Math 1200 A&C. Fred and Frank was a piece of mathematics which Eli Brettler adopted. The second is your poster and oral presentation. The poster should provide an outline of your questions and discoveries. There will be a poster session (May 11) which will allow you to share your research with the other students in the class. The presentations are early enough for you to incorporate suggestions from Dorota, me, and your fellow students in your final report.

The third is a journal. The journal is to give details on the contribution of each participant. It is also to include serious reflections (one for each group member) on the experience of working on the project including what each learned about themselves and about doing mathematics.

This project is worth 15% of the final grade. The written components are due on May 20. Evaluation will be based on mathematical content, clarity and organization, understandability, creativity of both the written and oral presentations, including the poster, and your reflections. The poster and the accompanying oral presentation may also be evaluated by your classmates.