

Math 200 Mini-Project 2

Due Tuesday, March 23

In general, the second mini-project is harder to give explicit directions for, as you will all have different topics, and the questions you should address in your paper differ largely by the type of paper you're addressing. Nevertheless, there are broad points in common between any such project like this, written up below (parts of which are repeated from the first project).

You should turn in what is probably best described as a college-mathematics-level book report on the article. I don't care too much about length, but can't imagine doing it in less than 3 single-spaced pages, probably more if your topic requires (or would just benefit from) the inclusion of images. If you've gone past 5 or 6, you've probably exceeded my expectation for how much to write, but I also understand needing to finish something you started. In any case, your response should be typed in complete, grammatical sentences.

Regardless of the specific questions you address, keep in mind that the two overall goals are for you to (a) learn a new piece of mathematics, (b) practice writing proofs, and (c) practice communicating that mathematics to an audience. Here are some very broad topics to consider including in your response – you do not have to accomplish all of these goals, but they should give you some guidance as to what I'm hoping to see. I would say that only the last one of these bullets, emphasized in bold, should be thought of as very nearly a *requirement*.

- Summarize the main point of the article. What is the point of the article? What is the author trying to convey? Who was the author's intended audience?
- Find something in the article that was new to you – some new math words you had never heard before, a new trick for computing something, an example that illustrates a new phenomenon you hadn't seen before, etc.
- Find something in the article that you don't understand, and write down a clear and concrete question that would help you resolve it. As in the previous example, this could be a conclusion that you don't understand how the author reached, or a piece of mathematics that you hadn't seen before.
- Do one new thing. Try to do at least one thing that the author doesn't. This could be brainstorming a new idea, taking a point that the author makes and taking it a little further, or constructing your own example to illustrate a theorem/observation from the text.
- **Find a proof in the article that you can work through, understand, and present in your own words. This could be either a proof explicitly called out in the text (as in "Proof. Let x be"), or it might just be an explanation that's split over a couple of paragraphs that you could convert to a formal proof. Another option is to take a claim that the author makes and does *not* justify, and to write a formal proof of your own to verify their claims.**