

## Math 824, Fall 2016

### Final Project

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#### Summary

Read a current research article in combinatorics, give a short talk (20 minutes) on it to an audience of fellow graduate students, and provide constructive criticism on another student's talk.

#### Article selection

Each student enrolled in Math 824 must meet with Jeremy individually to select a paper to read. Before the meeting, think about which topics from the course have interested you and that you would like to pursue, so that I can help you choose a suitable article. If you want, you can start looking for your own article using [MathSciNet](#) (requires KU login) or the [arXiv](#). The paper should typically be no longer than 20 pages. You must get final approval from Jeremy; two students cannot read the same article. You should have your article chosen by no later than **Friday, October 28**.

#### Talks

The goal of your talk is to help a fellow graduate student to become familiar with the main ideas of the article. Of course, you need to understand the paper well yourself in order to explain it to others, but you do not necessarily have to prove anything in your talk (and you probably will not have time to do so anyway). You should rehearse your talk multiple times before presenting it. Twenty minutes (the standard length of a talk at an AMS sectional meeting) is not a lot of time, so you need to plan carefully how best to use it.

#### Logistics

All students should plan to attend all the talks. If for some reason you know that you cannot attend, let Jeremy know *in advance*. Two talks will take place in class on **Monday, December 5**. The remaining five will take place during the time reserved for the final exam: **Wednesday, December 14, 10:30am-1:00pm**.

#### Constructive criticism

Each student will be responsible for providing a written critique of one other student's talk. I will assign critiquers after everyone chooses their articles. In your critique, you should address these questions:

- What did the speaker explain as the major themes (e.g., definitions, methods, theorems) of the article?
- What do you now know that you didn't know 20 minutes ago?
- What other mathematical ideas came to mind as you listened to the talk?
- What else would you like to know?
- What could the speaker have done differently to help you understand the mathematics better?

As always when giving constructive criticism to a mathematical colleague, you should be candid, respectful, and *specific*. The point of the exercise is for both audience and speaker to think about what makes a good presentation. As the critiquer, put yourself in the shoes of the speaker reading the comments, and think about what kind of feedback would help you evaluate your own talk and improve it for next time. Here are some examples of comments ranging from helpful to less helpful:

- Very helpful: "I get that a pseudoquasihypermatroid is intended to model pseudoquasihyperlinear independence, but I don't see how Axiom 1B reflects that?"
- Helpful: "I didn't understand the motivation behind the definition of a pseudoquasihypermatroid."
- Only sort of helpful: "I didn't understand pseudoquasihypermatroids."
- Not helpful: "Interesting talk, I liked it."