Math 223, Fall Term 2012
Pre-Midterm Sheet

January 31, 2021

Material

The material for the exam consists of the material covered in the lectures up to kernel and image (discussed on Monday, February 1), as well as Problem Sets 1 through 3. Here are some headings for the topics we covered:

- Vector spaces and subspaces.
- Linear dependence and independence; relation to linear equations.
- Bases and dimension
- Linear maps; kernel and image; dimension formula

Structure

The primary goals for this midterms are to get used to the style of exams in this course, and to check that we have the basic tools of linear algebra (vector spaces and linear maps) at our fingertips. The exam will operate on all three levels of the course (computation; material; proof skills).

- The first problem on the exam will ask you to state a definition from this part of the course, and make a simple verification using this definition. Immediate recall of definitions is crucial for math courses, since we will use this language repeatedly from now on.
- The second problem will be computational.
- Further problems may be computational and proof-based. Generally, later problems are more difficult and worth relatively less than earlier problems.

For practice problems use the course textbook, other textbooks, and the problem sets.

Practicalities

The exam will take place during class on Friday, February 5. At the start of the exam a PDF will be posted to the course website; submission will be to a Canvas assignment. You will have 45 minutes to write the test, and 10 more minutes to scan and upload your work. Please keep your cameras on during the exam.