Math 417: Exam 1 handout

Date, time, and location:  Wednesday, February 14, 2018, at the usual class time and room.

Office hours:  Tuesday, February 13, 3:00–5:00pm, 341B Illini Hall.

Test format:  The test will be a mixture of proof-oriented questions, conceptual questions, and a few computational problems. You may be asked to repeat a proof or two from class. The questions will overall be similar to those on the homework assignments.

Material covered:  The first ten lectures, and the corresponding material in the textbook. The specific things you may be tested on include:

1. Permutation groups: writing permutations in disjoint cycle notation, computing compositions of permutations, visualizing permutations as graphs.

2. Rotation groups: things similar to the discussion of the rotational symmetries of a rectangle and the homework problems on the equilateral triangle.

3. Arithmetic: reasoning about divisibility relations, finding the gcd of two integers and expressing it in the form $sa + tb$.


5. Basic properties of groups: deciding when a set with an operation is a group. Deciding when a subset of a group is a subgroup. Deciding whether a given function is an isomorphism of groups. Solving simple equations in an abstract group.