Exam 1 Study Guide

You should make a small paper triangle which you will be allowed to use during the exam to help you with any questions regarding D_6. Otherwise the test is closed book and closed notes.

The following lists of bullet points should help narrow down what you study, but is not intended to be exhaustive.

LaTeX

- Know how to create bullet lists and enumerated lists.

- Know how to create a simple table.

- Know how to typeset a simple matrix.

- Know how to typeset a square root, cube root, etc.

- Know how to typeset a fraction.

- Know the different ways of entering/exiting math mode.

Groups

- Understand the symmetries of an equilateral triangle, i.e. the group D_6.

- Memorize all definitions in the lecture notes. There will be at least one "define this term" type of question.

- Be able to show how to generate any element of D_6 given two generators.

- Be able to write a permutation given to you in tabular form as a cycle and vice versa.

- Be able to multiply/compose cycles without switching them to tabular notation first.

- Be able to recognize whether a map is a homomorphism or not.

- Know the homomorphism from D_6 to S_3.

- Be prepared to determine whether a given relation is an equivalence relation or not.

- Understand how to generate an equivalence relation given a partition and vice versa.

- Know Lagrange's theorem.

- Be prepared to determine whether a permutation is odd or even.