

What to Expect on the Final Exam

The final exam on Wednesday, December 7 will consist of ten (10) questions, each worth twenty (20) points. The final exam will be comprehensive, with more emphasis on material since the midterm exam. Self contained calculators will be allowed; notes and books will not.

There will be three or four questions which ask you to compute something. In addition to the examples listed for the midterm, “compute” also includes: producing multiplication tables for groups, computing orders of elements and subgroups, and finding kernels and images of homomorphisms.

There will be three or four definitions, possibly with applications. You should be able to recall all the definitions we’ve had and be able to apply the definitions to specific situations.

You should be able to recall the named theorems we’ve discussed. The Division Algorithm (really a theorem, not an algorithm), the Fundamental Theorem of Arithmetic, Fermat’s Theorem and Euler’s generalization, and the Chinese Remainder Theorem are all from before the midterm exam. Since then we’ve had Lagrange’s theorem. Though Cayley’s theorem is in section 3.6, we didn’t discuss that (so you’re not responsible for remembering it).

You will also be asked to write one or two proofs. These will be mainly to test your ability to write proofs. To a lesser extent, they may also test your recollection of major results we’ve discussed in class so that you may apply them in your proofs.