

SUGGESTIONS FOR HOW TO STUDY FOR MIDTERM 2

MARTIN OLSSON

The general suggestions are as last time. The test will cover everything from the Chinese Remainder Theorem onwards.

- (1) Know the definitions involved. For example, you should be able to define order, quadratic (non)residue, Jacobi symbol, definition of $\langle a_0, a_1, \dots \rangle$ (both finite and infinite) (this is not an exhaustive list).
- (2) Know the statements of the main theorems, and go over how they were applied to solve problems on HW or in class. For example, theorems 2.18, 2.23, 2.36, 3.1, 3.2, 3.4, 3.6, 3.7, 7.2, 7.10, 7.25, 7.26 (these last two are to be covered on Monday and Wednesday).
- (3) Be able to prove some of the shorter standard results which we covered. Though this test will probably focus more on applications of the major theorems (because many of the proofs are too complicated to ask on an hourly), I think it would be fair game to ask you to prove any of the following results (but I could also ask you to prove other things or variants of these): theorem 2.20, cor 2.30, lem 2.34, theorem 7.10 (I would give you required formulas and bounds if something like this were to appear)
- (4) Go over the homework and read the solutions. If your solution to a problem was long and messy, there was probably a better way.