Math 489 3rd Topics List

This test covers all material covered in the course with more emphasis on the material since the 2nd test.

We have covered the following chapters/sections:
1 (history only), 2 (all), 3 (all), 4 (all), 5 (all), 6 (all), 7 (all), 8 (all), 9 (all), 9.1, 9.2.3, 9.3, 9.4, 10 (all), Ch 11 (all), Ch 12 (all), 13 (history only), 14.1, 14.3.1, 15.1, 15.3, 16.1.2, 16.2.3, all of 16 for history, 17.1, 17.2, 19.1, 20.2.1 (history only), 20.2.3 (history only). Note: “all” means both math and history, something from each section, but not necessarily everything- use topics list as a guide.

Math:
1. Computations in Fermat’s proof of the case n=4 of “Fermat’s Last Theorem”, as illustrated by problem 14.10
2. Computation of probability, including use of complementary probability and conditional probability, as illustrated by problems 10.15, H11, H12.
3. Dedekind cuts, as illustrated by problems H13, H14
4. Set cardinality, as illustrated by problem H15

History:
1. Important developments in algebra in the 18th and 19th centuries.
2. History of Fermat’s Last Theorem
3. History of solution of polynomial equations