Math 406 — Final Exam Review — Toppics since Exam II

9.1. Order of an integer, primitive roots.

9.2. Lagrange's Theorem and primitive roots for primes.

9.3. Existence of primitive roots.

9.4. Indices and index arithmetic.

11.1. Quadratic residues and non-residues, the Legendre symbol, Euler's Criterion, Gauss' Lemma, -1 and 2 as quadratic residues.

11.2. Law of quadratic reciprocity, use in calculating the Legendre symbol.

13.1. Pythagorean triples.

13.2. Fermat's Last Theorem, $n = 4$.

13.3. Sums of two squares.