MATH 445 — FINAL EXAM REVIEW

Topics After Exam 2

- the Peano Axioms for arithmetic on the natural numbers
- deducibility from **PA**
- definability in **PA**
- recursive functions and relations
- techniques for showing recursivity, such as primitive recursion, μ-recursion, definitions using bounded quantifiers
- sequences, sequence numbers, and recursive relations and functions on them
- course-of-values recursion
- the β-function and its use
- Gödel numbers and recursive functions and relations on them
- the Incompleteness Theorem: statement and proof (defining a sentence true on $\mathcal{N}$ but not a consequnce of **PA**)