

Math 202 — Homework #1

Due Apr 5, 2011

The page and problem numbers below refer to the third edition of Dummit and Foote's "Abstract Algebra."

- Sec 10.1, #4, 5, 6, 7, 8, 9, 10, 11, 14, 16, 18, 19.
- Sec 10.2, #4, 5, 6, 9, 11, 13.
- Sec 10.3, #2, 6, 7, 9, 11, 16, 17, 24, 27.
- (Supplementing #2 in section 10.3) If R is a commutative ring, and m, n are positive integers with $m > n$, is it possible for there to exist an injection $R^m \rightarrow R^n$? What about a surjection $R^m \rightarrow R^n$ if $m < n$? (Note: one of these is harder than the other!)