

Math 202 — Homework #3

Due Apr 26, 2011

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

- Sec 11.5, #1, 6, 8, 12, 14.
- Show that if R is an integral domain, and M is an R -module, then my definition of $\text{rank}_R(M)$ and the book's definition agree, i.e. show that $\dim_F(F \otimes_R M)$ is equal to the maximum number of R -linearly independent elements of M .
- Sec 12.1, #1, 3, 4, 13, 15.