Homework 4
due on Friday, November 15

Read sections 10.4, 10.5 in Dummit and Foote. Solve problem 20 to section 10.4 and problems 6,14,21,27,28 to section 10.5 of Dummit and Foote. Also solve the following problems:

Problem 1. Ler R be a UFD and let S be a multiplicative subset of R. Prove that $S^{-1}R$ is a UFD. Is the same true with UFD replaced by PID?

Problem 2. Let n be a positive integer. Prove that R has IBN (invariant basis number) iff $\mathrm{M}_n(R)$ has IBN.