

**HOMEWORK #4 (DUE FRIDAY, NOV. 14).**

11/06/2014

**Note:** *Turn in only the “starred” problems; out of these, selected problems will be graded.*

Section 5.2: Exercises 2, 3, 5, 6\*, 10\*, 14\*.

**Additional problem:** Let  $G$  be a finite abelian group and let  $H$  be a subgroup of  $G$ . Prove that  $G$  has a subgroup isomorphic to  $G/H$ . (Hint: one relatively easy way to prove this uses exercise 5.2.14 above.)

Section 5.5: Exercises 3, 4, 6\*, 7, 8\*, 20\*, 21\*.