Assignment 2

Lang, Chapter 1, Exercises 27, 28, 29, 30, 40 41. (I imagine it would be more efficient to do 28 and 29 before 27)

Additional exercise: A *maximal subgroup* of a group G is a proper subgroup that is not properly contained in any proper subgroup. Show that the following are equivalent for a finite group: (1) G is nilpotent. (2) Every maximal subgroup of G is normal. (3) Every maximal subgroup of G contains G'.