

Homework 1 (due Wed. September 19)

The Homework problems are meant to be challenging. You are encouraged to think about and discuss homework problems with your fellow students (and with Duncan Sinclair and me) but you are expected to write up solutions by yourself.

Read Sections 1,2,3 p. 3-55

p.13: 1v,vi, 5iii,vii,viii, 11, 13

p.27: 1,5, 10 (The well-ordering principle is discussed in the first paragraph of p. 23. Hint: Let  $A_1, \dots, A_n$  be such that  $A_1$  is true and  $A_r$  true implies  $A_{r+1}$  is true. If  $A_n$  false for any  $n$ , let  $C = \{n \in N : A_n \text{ false}\}$  Then  $C$  is nonempty and so by the well-ordering principle contains a least element  $p$ . Derive a contradiction.) , 14a