

PROBLEM SET 1

DUE JANUARY 17

All numbered problems refer to the textbook.

- (1) Rigorous proofs for Problems 1.2.2, 1.2.3.
- (2) Problem 1.3.9 ((ii), (ix), (xi), (xii)) from the textbook (only those four parts are due but I strongly recommend you do all of 1.3.9 for practice).
- (3) Express each of the following statement as a conditional statement in "if-then" form. For each statement, write the negation, the contrapositive and the converse. Your answers should use clear English, not logical symbols.
 - (a) Every odd number is prime.
 - (b) Passing the test requires solving all the problems.
 - (c) Being first in line guarantees getting a good seat.