

Student No.

Name:

All problems, unless otherwise specified, are from A First Course in Abstract Algebra 7ed by Fraleigh. You do NOT need to hand in solutions to the problems in parentheses, but you need to hand in solution to the extra problems if there is any.

Extra problems.

1. Let N be a normal subgroup of G with prime index p . For a subgroup H of G , show that either

i) H is a subgroup of N , or

ii) $G = HN$ and $[H : H \cap N] = p$.

§16 (8), 12, 13, (14), (15), (16), (17), (18)

§17 3, 7

§34 (2), (5), 8a, 9