MATH 631
Allman

INSTRUCTIONS: Read Chapters 0 and §1.1 - 1.5 in your textbook by Friday, August 31, working through all the problems listed below. Each student will present solutions to the class on Friday (that is, *this* Friday) to a small number of these problems.

You will be assigned your student number during the first MATH 631 class, and you should prepare written solutions to the problems assigned to you personally to communicate to the class on Friday, August 31. You have **7 minutes** to present your solutions. If you need more time to present the solutions, then cut your material down to the allotted 7 minutes. If you run over your allotted time, there is an automatic deduction of 3 (out of 10 points).

You will be assessed by each class member on a scale of 0 - 10 and given written, qualitative feedback on your solutions. The goal is *to communicate* mathematics clearly and effectively. This means you should be thinking of possibly including examples or trying to explain your thinking in addition to giving a correct solution; that is, do anything that will help the class understand your solution in an effective way. Since this assignment is partially to help students review material and learn notation used by Dummit and Foote, your solutions should include definitions if appropriate. For instance, for problems in section 0.2, defining (or reminding students of) the Euler φ-function is probably a good idea.

Student 1: Euler φ-function: §0.2: 4, 5

Student 2: Euler φ-function: §0.2: 10, 11

Student 3: $\mathbb{Z}/n\mathbb{Z}$: §0.3: 4 or 5, 8

Student 4: $\mathbb{Z}/n\mathbb{Z}$: §0.3: 13

Student 5: Groups §1.1: 9

Student 6: Groups §1.1: 33 Dihedral groups §1.2: 4

Student 7: Dihedral groups §1.2: 2