Math 566: Abstract Algebra I
Homework 9

10 points total. Due Friday, October 29 (in TWO WEEKS from the date this was posted) by 11:10 am in class.

Problems

1. (2 points) Compute all of the conjugacy classes of the dihedral group D_6 of order 12 (i.e. the symmetry group of the hexagon). Write down the class equation for the group. (Hint: Computing centralizers may help in determining the expected sizes of each conjugacy class.)

2. (1 point each) Chapter 6 exercises 10.2, 11.5

3. (2 points) Chapter 7 exercise 2.7

4. (1 point) Chapter 7 exercise 5.6

5. (3 points) Chapter 7 exercise 5.11

Recommended practice exercises

(DO NOT hand these in - these are just extra problems I recommend you look at if you'd like more practice.)

Chapter 7 exercises 2.2, 2.3, 2.5, 2.8, 5.1, 5.7.

Bonus

(+1 point): Chapter 6 exercise M8