

Math 100a Fall 2009 Homework 2

Due 10/09/09

Reading

All references are to Beachy and Blair, 3rd edition.

Continue to review sections 2.1 and 2.2 on functions and equivalence relations. I assigned a few problems on this weeks homework to help review these topics; I think everyone could use practice on this material. Also, please go over the placement quiz.

The main reading assignment for the week is 1.3, 1.4, and 3.1.

Assigned Problems

Write up neat solutions to these problems:

Section 1.3: 25 (think about 24 first, but don't write that one up.)

Section 1.4: 17 (the formula referred to is the one in Proposition 1.4.8), 24, 27, 29, 30

Section 2.1: 11, 16

Section 2.2: 8

Problems not from the text (also to be handed in):

1. Find (with proof) the remainder when 23^{631} is divided by 9.
2. Write down a list of all elements in the group $(\mathbb{Z}_{10}, +)$ and calculate the inverse of each element in the group. Similarly, write down a list of all of the elements in the group $(\mathbb{Z}_{14}^{\times}, \cdot)$ and calculate the inverse of each element in the group.

Extra Problems

These are problems I like which I decided not to assign. You may find it useful to look over these extra problems to check your understanding of the material. They are not to be handed in.

There is nothing wrong of course with doing even more exercises from the text not listed here!

Section 1.3: 1, 6, 24

Section 1.4: 6, 8, 13, 14

Section 2.1: 2, 4, 6, 13-15, 17, 19 (these were also listed last week)

Section 2.2: 3, 4, 5, 9 (these were also listed last week)