



NUMBER THEORY II
FALL 2012

ASSIGNMENT 2
DUE SEPTEMBER 11

Exercise 1. Let f , g and h be multiplicative functions. Last semester we proved that if f and g are multiplicative, then so is $f * g$. Assume also that the inverse of a multiplicative function is multiplicative (we'll prove this next week). Use these facts to prove that if $f * g = h$, with f and h multiplicative, then g is multiplicative.

Exercise 2. Textbook exercise 2.21

Exercise 3. Textbook exercise 2.23

Exercise 4. Textbook exercise 2.27a

Exercise 5. Textbook exercise 2.28a