



NUMBER THEORY  
FALL 2020

ASSIGNMENT 5.3  
DUE SEPTEMBER 30

**Exercise 1.** Let  $G$  be a group. For  $a \in G$  define  $L_a : G \rightarrow G$  by  $L_a(x) = ax$ . Prove that  $L_a$  is a bijection by showing that  $(L_a)^{-1} = L_{a^{-1}}$ .

**Exercise 2.** Textbook exercises 5.2.2(b) and 5.2.4(c).

**Exercise 3.** Textbook exercise 5.2.12.