7   Lab 7 – March 31, 2022

Instead of a tutorial students have to solve homework 4 amd submit solutions in Moodle

Homework 4

Example 1. In $\mathbb{Z}_{267}$ find all x for which

$$126\,x = 3.$$

Example 2. In $\mathbb{Z}_{261}$ find all x for which

$$138\,x = 6.$$

Example 3. Find all $x \in \mathbb{Z}_{501}$ for which

$$51\,x = 36,$$

where the multiplication is in $\mathbb{Z}_{501}$.

Example 4. Find the remainder when we divide the number 101^{49} by 23.

Example 5. Find all invertible elements in $(\mathbb{Z}_{13}, \cdot, 1)$. For every invertible element a find its inverse a^{-1}.

Example 6. Find all invertible elements in $(\mathbb{Z}_{15}, \cdot, 1)$. For every invertible element a find its inverse a^{-1}.