

ALGEBRA AND CODING HOME WORK 01

Exercise 1. Let $f(X) = a_0X^n + a_1X^{n-1} + \dots + a_{n-1}X + a_n \in \mathbb{Z}[X]$. Suppose that $f(0)$ and $f(1)$ are odd integers. Show that $f(X)$ has no integer roots.

Exercise 2. Let \mathbb{F}_q be a finite field. Evaluate the sum and product of the non-zero elements of \mathbb{F}_q .