$Math\ 525 \ --\ Quiz\ 9 \ --\ October\ 4,\ 2023$

Name:_____

Determine the order and structure of the following abelian groups:

1.
$$(\mathbb{F}_2[x]/(x^2+x+1))^{\times}$$

2.
$$(\mathbb{Z}/8\mathbb{Z})^{\times}$$

3.
$$(\mathbb{Z}/27\mathbb{Z})^{\times}$$