Instructions. Write all answers clearly on one piece of paper, and put all group members’ names on the top of the paper. If you talk, you must do so very quietly!

1. What is the difference between an isomorphism and an automorphism?

2. (True/False) A non-Abelian group has no automorphisms.

3. What is the difference between an automorphism and an inner automorphism?

4. What is Aut(\(\mathbb{Z}_n\)), the group of automorphisms of \(\mathbb{Z}_n\)? (Hint: Recall what possibilities there are for \(\phi(1)\) for an automorphism \(\phi : \mathbb{Z}_n \to \mathbb{Z}_n\).)