

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