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 role of the binary operation in defining a group?
- 2. Besides having a binary operation, what are the names of the three properties a nonempty set must have to be a group?
- 3. How can we make the set of 2×2 matrices over the real numbers a group under matrix multiplication?
- 4. An Abelian group satisfies ab = ba for all pairs a, b in the group. Give an example of an Abelian (commutative) group and a non-Abelian group, being clear which is which.