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. Is there any structure to the set of even permutations within S_n (for $n \geq 1$)? If so, what?

2. What is the order of A_n, the alternating group of degree n, which is a subgroup of S_n?

3. How many elements are there in the group of rotations of the regular tetrahedron?

4. What single operation could we add to the group of rotations of the regular tetrahedron in order to generate a group that is essentially S_4? Clearly describe it or draw a figure to help explain.