

## THE EVEN SUBGROUP – PRACTICE

Definition: A permutation is even if it can be written as a product of an even number of transpositions, i.e. cycles of length two. Also, the identity is always considered to be an even permutation.

Theorem: Let  $G$  be a group of permutations. Then the set of all even permutations in  $G$  form a normal subgroup.

Proof: