

Homework 2/ Algebraic combinatorics I

- (1) Let G be a finite group, and H a subgroup of G . Prove that $|G/H| = |G|/|H|$. The proof must be complete, precise, completely clear, and reader-friendly.
- (2) Prove that the parity of a permutation is well-defined.
- (3) Construct a initial configuration of the puzzle with 15 numbers that we discussed in class, that is not possible to solve, and prove your result.