Mathcamp Day 2

July-14-09
3:59 PM

Given $g_1 \ldots g_m \in S_n$.

on board:

Questions: 1. How big is $G := \langle g_1, \ldots g_m \rangle$?

2. Does $\sigma \in G$?

3. If $\sigma \in G$, can you write it using $g_1, \ldots, g_m$?

4. Can you generate a strictly random $\sigma \in G$?

"A group": 1. Associativity 2. Identity

3. Inverses.

$S_n := \{$all 1-1 onto $\sigma : \{1, \ldots, n\} \circlearrowright \}$

1. Subgroups: "If S is finite and $G \subset S$, then G is a subgroup iff $x, y \in G \Rightarrow xy \in G$"
2. The Rubiks Cube group.
3. The group generated by $g_1 \ldots g_m$
4. Complexity of brute force.
5. Gaussian elimination as on handout — simply write the algorithm and then explain.