Algebra 2010-Aalborg University

9th Lecture: Tuesday October 12th, 8:15-12:00 at room G5-112.

- 8:15-8:45 Repetition from last lecture. Group homomorphisms. The isomorphism theorem. Order of a group element (pages 70–73).
- 8:45-10:45 Work in groups. Exercises from [Lau], 2.11 (page 104)+2 other exercises: 21, 26, exercise A, 24, 23 (read example 2.5.3 for solving it), exercise B, 27.

  Exercise A: Prove that $\langle g \rangle$ is abelian (hint: use exercise 26).

  Exercise B: Let $G = \mathbb{Z}/12\mathbb{Z}$. Compute $\langle [a] \rangle$ and $\text{ord}([a])$, for every $[a] \in G$. What are the subgroups of G?
- 10:45-12:00 Lecture: Cyclic groups. Euler's theorem (revisited). Product groups (pages 74–77).

Best regards,

Diego Ruano