Algebra 1 (2012)-Aalborg University
Lecture 25, November 29th

25th Lecture: Thursday November 29th. I will not be present during this lecture.

8:15-12:00 Work in groups.

- Self-study: *Rubik's cube and group theory.* Janet Chen's notes for Honors Summer Math Camp at http://www.math.harvard.edu/~jjchen/. Our main objectives are understanding how a group acts on the Rubik's cube, Theorem 11.1 and Remark 11.15 (why do "only" 1/12 of the configurations are valid?).

  You already know many things from this paper. The new concepts are in:

  - Chapter 3: The Rubik's cube and subgroups (Errata: In page 11, line -13, for D read R. In page 11, line -11, for D read R).
  - Example 4.10.
  - Section 5.2: Rubik's cube.
  - Chapter 6: Configurations of the Rubik's cube.
  - Example 7.3.
  - Chapter 10: Group actions. You know most of it, but the notation is different. You can read it.
  - Chapter 11: Valid configurations of the Rubik's cube.

  A computer program for working with Rubik's cube, by Tom Davis: http://www.geometer.org/rubik/. The documentation can be found here. For instance, in "Edit/Input Cube" you can check whether a configuration is valid or not.

Best regards,

Diego