- The final project will account for 25% of your course grade.
- Groups of three students will work on one of the final projects listed below. You must work with students other than the ones you worked with for the lesson presentation.
- Deliverables consist of a complete written solution (target length: five pages) and a 15-minute presentation. The paper does not need to be typeset if the handwriting is legible.
- The projects will be presented during the final exam period on **Tuesday, May 13, 16:00–18:45**. All students must be present for all presentations.
- The accompanying papers are due on **Tuesday, May 13** before the start of the presentations.
- The student group will be graded as a group. All group members must contribute to both the written solution and the presentation in equal parts. If members of a group feel that one member is not contributing in a meaningful way, they can ask me to remove the particular student from their group.
- The group will be graded foremost on the mathematical correctness and mathematical clarity of their solution. Other criteria include the quality and completeness of the written report, the quality of the group presentation, making effective use of the allotted time, and staying within the time frame of 15 minutes for the oral presentation.
- Projects will be assigned on **Thursday, April 17**.

Projects:
(Numbers refer to end-of chapter projects.)

1. Nonary system - State and prove theorems for numbers in base 9 corresponding to the theorems in Section 2.1.3.
2. Countability of the set of algebraic numbers. (2.2)
3. The field of algebraic numbers.
4. **Alberto, Ariel, Jose:** Three problems of antiquity.
5. **Annette, Michael, Sarah:** A proof of the Fundamental Theorem of Algebra.
6. Stereographic projection. (2.8)
7. **Daniela, Janeth, Rebecca:** nth differences and polynomial functions. (3.5; see also Section 3.3.2)
8. **Alejandra, Clarissa, Claudia:** Limit definitions for the number e. (3.6)
9. **Adriana, Alexandra, Djuna:** The Cardano-Tartaglia method for solving cubic equations. Include a discussion of the *Casus Irreducibilis*. (2.5)
10. **Carlos, Jesse, Manuel:** The geometry of the cubic formula. (RWD Nickalls)