- Groups of three students each will work on one of the final projects listed below. You should work with other students than the ones you worked with for the student presentation.
- Deliverables consist of a complete written solution and a 15-minute presentation. The written solution does not need to be typeset if the handwriting is legible.
- Projects 1-4 will be presented on the last day of classes (December 3); Projects 5-10 will be presented during the final exam period (December 10, 16:00–18:45). The written solution is due before the start of the presentation.
- 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 mathematical correctness and mathematical clarity of their solution. Other criteria include the quality of the presentation (organization, boardwork, seeking and responding to student feedback, etc.), 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, October 22. Project 6 requires knowledge of geometry software such as *Geometer's Sketchpad* or *GeoGebra*. I'd appreciate if at least one student group volunteered for this particular project.

Projects[1]:

1. Nonal system - State and prove theorems for numbers in base 9 corresponding to the theorems in Section 2.1.3.
2. Countability of algebraic numbers (2.2)
3. Cardano-Tartaglia method for solving cubic equations (2.5)
4. Stereographic projection (2.8)
5. Leibniz segments I (3.1)
6. Leibniz segments II (3.2) [Requires *Geometer's Sketchpad*]
7. Limit definitions for the number e (3.6)
8. How likely are real and rational solutions for quadratic equations with integer coefficients? (4.2)

[1]The numbers refer to end-of chapter projects.

9. Ferrari's method to solve quartic equations (4.4)

10. Newton's method (4.6)

Group	Project	Name 1	Name 2	Name 3	Name 4
A	8	Carlo Amato	Juan Martinez	Yvonne Vega	
B	1	Sergio Padilla	Andrew Avila	Amanda Perez	Mark Gutierrez
C	4	Corina Marrufo	Wylly Garcia	Jackie Jeson	
D	9	Maritza Diaz	Ricardo Rodriguez	Jesus Ortiz	
E	2	Daniel Dorado	Michael Strange	Angel Aguero	
F	7	Enrique Urrutia	Jasmine Montanez	Adrian Delgado	
G	5	clifford austin campbell	berenice salazar	norely hidalgo	
H	10	Juan Villarreal	Eduardo Penaflor	Cesar Ramirez	
I	6	Adrian Bandu	Nathalie Jacquez	Blanca Rubio	
J	3	Rosa Moreno	Martin Navarro	Sonia Loya	