

Course Name: Summer 08-Geometry (Online Course)

Objectives: This course provides students with the following topics:

- Circles
- Ellipses
- Parabolas
- Hyperbolas
- Proofs by contradiction
- Mathematical Induction

Lesson Plan

- Lesson 1: Review transformations of functions. Introduction to equations of circles in standard form
- Lesson 2: Equations of circles in general form; tangent line to a circle.
- Lesson 3: Introduction to ellipses and equations of ellipses with center at $(0, 0)$
- Lesson 4: Equations of ellipses in standard form and in general form. Sketching the curves of ellipses.
- Lesson 5: Definition of parabolas and standard form of an equation for parabolas.
- Lesson 6: General form of the equation for parabolas . Introduction to hyperbolas.
- Lesson 7: More on hyperbolas. Introduction to Math induction
- Lesson 8: More on math induction and proofs by contradiction
- Lesson 9: More proofs. Review for the final exam
- Lesson 10: Final exam (1.5 hours)

Attendance Policy: Students are expected to attend each scheduled class meeting. Regular attendance is essential to your success in this course. If you are not in class, you are responsible for the material covered.

Lecture Notes: Well written lecture notes will be posted online before or after each class. Students are required to read them before doing homework.

Homework: Homework will be posted online after each class and must be submitted it online before the next class. It will be graded and the results will be posted online. It is the essential for the students to do the homework as exercises in order to digest the material covered in the class.

Quizzes: A weekly-quiz will be given at the end of each class except the first and the last class. Each quiz is worth of 10 points. Quiz questions will be similar to the questions in the previous homework assignment. Each quiz will be graded and its score will be posted online afterward.

Makeup Quizzes: If a student misses a class, he/she can make it up within two days by printing out the quiz, work it out at home with parent's supervision, and then email it to the teacher for grading with parent's signature on the top of the quiz.

Final Exam: The final exam will be given at the last class. To be prepared for the final exam, student are required to do all problems on the review sheet posted online.

Awards: The students' grades will be evaluated based on their performance in homework assignments, quizzes, and the final exam. The course grade will be calculated as follows:

Homework assignments: 20%

Quizzes: 50%

Final exam: 30%

Top three scored students will be awarded at the end of the semester.