



Course Title: Integrated Mathematics II

Instructor: Mr. Maxwell Zhang

Instructor Availability: Office hours/tutoring times: Mon/Wed 3:00pm-4:00pm

Instructor Contact: Email: mzhang@gomperscharter.org

Course Description:

Integrated Math II provides the foundation required for success in future mathematics courses through an integration of both content and learning procedures. Topics covered include algebraic expressions and equations, number sense, probability and statistics, geometry, and an introduction to trigonometry all with an emphasis on deepening understanding of linear relationships. Through the use of data collection, equations, and graphs, students will recognize and develop patterns and models. Students will learn to use problem solving skills in real-world applications due to emphasis on mathematical literacy. Students will think critically, collaborate successfully with classmates, and communicate mathematical concepts effectively. Assessments include individual/group projects, presentations of learning, mid-quarter performance tasks, and end-of-the-quarter exams. Instruction combines both California Common Core State Standards and Mathematical Practice standards in a college preparatory environment.

GPA Grading Guidelines:

Category	Grading Criteria	Percentage
Classwork	<ul style="list-style-type: none">Completion/Quality <p>(Must have a minimum of 1 weekly grade)</p>	30%
Demonstrations of Learning	<ul style="list-style-type: none">Key Course Assignments <p>(See course syllabus for Unit Key Assignments)</p>	35%
Homework/Independent Learning	<ul style="list-style-type: none">Any work assigned to a student in which they complete on their own outside of class. <p>(Must have a minimum of 1 weekly grade)</p>	10%
Quarter Finals	<ul style="list-style-type: none">Quarter finals are course specific, standards based exams that cover content from the 9 week quarter.	25%

* Classwork/Participation and Homework/Independent Learning will be updated weekly.



Prerequisites: Completion and passing grade of Integrated Mathematics I course

Course Materials: Mathematics Notebook (provided in beginning of year), pencils, highlighters
access to internet (home and/or school)

Course Structure: This course will consist of teacher-lecture, small group peer-led teaching,
interactive math note-taking, and individual/group presentations of learning

Course of Study: See below:

Unit 1- Rational Expressions/Square Roots: 1 week

Content Standards	Learning Objectives	Key Assignments/Exams
N.RN.1, N.RN.2, N.RN.3	Students will be able to correctly simplify rational expressions by using properties of square roots	Rational Expressions Simplification, Tarsia puzzle, Mix&Match Review

Unit 2-Laws of Exponents: 2 weeks

Content Standards	Learning Objectives	Key Assignments/Exams
A.SSE.2, A.SSE.3, A.SSE.3c	Students will be able to correctly simplify a numeric expression using the correct rule of Laws of Exponents.	Tarsia Puzzle, Error Analysis, Khan Academy exercises, Unit 2 Quiz

Unit 3- Arithmetic & Geometric Sequences: 4 days

Content Standards	Learning Objectives	Key Assignments/Exams
G.CO.9, G.CO.10, G.CO.11	Students will be able to correctly identify a distinction of series and be able to accurately predict the next term in its sequence.	Variety of sequences handouts, Khan Academy practice,

Unit 4- Equivalent Expressions/Polynomial Review: 1.5 weeks

Content Standards	Learning Objectives	Key Assignments/Exams
A.SSE.3a, A.SSE.3b, ASSE.3c	Students will be able to use the Distributive Property to accurately distinguish if all	Distribution Property Simplification Assignments,, Tarsia puzzle, Mix&Match



	expressions are or are not equal to each other.	Review,
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Unit 5- Quadratic Equation And Its Characteristics: 1.5 weeks

Content Standards	Learning Objectives	Key Assignments/Exams
A.SSE.1, ASSE.4	Students will be able to correctly label each part of a quadratic equation and explain the purpose of each distinct part	Tarsia Puzzle, Mix&Match Activities, Desmos Illustrations, IXL online practice, Real-World Application Handouts, Error Analysis

Unit 6-Quadratic Formula Implementation: 2-2.5 weeks

Content Standards	Learning Objectives	Key Assignments/Exams
F.IE.5, F.IF.6,7,8.9	Students will be able to correctly use the Quadratic Formula to find all real roots and graphs of its zeros	Characteristic Continuation, Mix&Match Activities, Desmos Illustrations, IXL online practice, Real-World Application Handouts, Error Analysis

Unit 7-Parabolic Functions/Characteristics: 4 days

Content Standards	Learning Objectives	Key Assignments/Exams
F.LE.6, A.SSE.3ab	Students will be able to correctly determine the differences and similarities of certain properties of parabolic functions	Desmos Assignments, Vocab Review, Khan Academy Exercises, Real-World Applications, Error Analysis

Unit 8: Graphing Quadratic Equations: 5 days

Content Standards	Learning Objectives	Key Assignments/Exams
F.LE.6, A.SSE.3ab	Students will be able to correctly graph parabolic equations and accurately label distinct values/sections	Desmos Assignments, Vocab Review, Khan Academy Exercises, Real-World Applications, Error Analysis



Unit 9: Complex/Imaginary Number System: 1.5 weeks

Content Standards	Learning Objectives	Key Assignments/Exams
N.CN.1, N.CN.2, N.CN.3	Students will be able to accurately solve complex zeros of a Quadratic Equation by using rules "i" and correct simplifying	Error Analysis, Complex Quadratic Handouts, Khan Academy Exercises

Unit 9: Graphing on Complex Planes: 1 week

Content Standards	Learning Objectives	Key Assignments/Exams
N.CN.4, N.CN.5, N.CN.6	Students will be able to correctly graph complex points on an imaginary plan using knowledge of complex roots of a Quadratic Equation	Error Analysis, Complex Quadratic Handouts, Khan Academy Exercises, IXL exercises

Unit 10- Introduction to Probability: 2.5-3 weeks

Content Standards	Learning Objectives	Key Assignments/Exams
S.CP1, S.CP2, S.CP3, S.CP4S.MD.6, S.MD.7	Students will be able to correctly predict the projection of probability given its sample space and scenario restrictions	Error Analysis, Real-Life Approach Scenarios, Khan Academy Exercises, Multiple Events Activity

Unit 11- Pythagorean Theorem- 1.5 weeks

Content Standards	Learning Objectives	Key Assignments/Exams
G-SRT.2, G-SRT.3	Students will be able to use The Pythagorean Theorem to correctly solve for a right triangle's missing side.	Tarsia Puzzle, Pythagorean Theorem Maze, Khan Academy Exercises, Error Analysis, Real-Life Scenarios

Unit 12-Triangle Similarity/Congruency: 2 weeks

Content Standards	Learning Objectives	Key Assignments/Exams
G.SRT.1a, 1b, 2, 3 G-SRT.4, G-SRT.5, G-SRT.6	Students will be able to correctly identify if two triangles are similar or congruent to each other by using AAS, ASA, SAS, SSS, and HL postulates. Students will also be able to find the	Khan Academy exercises, Error Analysis, Congruency Assignments, Mix&Match Triangular Activity



	missing side of a congruent triangle given partnered dimensions	
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Unit 13- Trigonometric Identities: 3 weeks

Content Standards	Learning Objectives	Key Assignments/Exams
F.TF.8, G.SRT. .6, 7, 8	Students will be able to prove and apply trigonometric identities and solve without the use of a calculator	Error Analysis, Real-Life Approach Scenarios, Khan Academy Exercises, Multiple Events Activity

Unit 14: Circles: 1.5 weeks

Content Standards	Learning Objectives	Key Assignments/Exams
G.C.1, 2, 3, 4, 5	Students will be able to understand and apply theorems regarding circles. Students will be able to find the arc length and the area of sectors of circles	Error Analysis, Real-Life Approach Scenarios, Khan Academy Exercises, Multiple Events Activity

Unit 15: Conic Sections: 2 weeks

Content Standards	Learning Objectives	Key Assignments/Exams
G.GPE.1, G.GPE.2	Students will be able to translate between the geometric description and the equation of various conic sections, including, but not limited to. volume.	Error Analysis, Real-Life Approach Scenarios, Khan Academy Exercises, Multiple Events Activity

Course Specific Student Expectations:

- Students are to come prepared and on-time to class everyday. In case of a predicted tardy-issue, student must communicate to teacher(s)
- Students are to communicate to teachers) when problematic events occur. Students must provide a written (email) request in sufficient time for extended time on assignments if necessary.
- Respect others and respect yourself. Always.

Accommodations/Modification and Supports:

Any student who requires accommodations, modifications or additional supports should contact me as early as possible so that we may arrange accommodations, modifications and supports.



GPA Student Expectations:

School-wide Attendance: All students are expected to be punctual and in their classroom seat, ready to learn for each day. Under California law (Ed. Code 48200) all children between the ages of six and eighteen are required to be enrolled and in regular attendance at school. GPA families know that school attendance is the critical first step to make sure that each student receives an education that will help them on their path to college. Students cannot learn what they need to be prepared for the next grade level, if they are not in school. The more absences from school a student has, the more they fall behind in their classes and the more difficult it will be to make it to college.

Planner Use: All students are expected to write all assignments in their GPA planner daily. Your first GPA planner will be provided by the school to support organization and time management.

Homework Completion: As a school working toward college preparation, all GPA students are expected to complete their daily/weekly assignments. Students who fail to complete their homework assignments on time, and are unexcused, will be required to attend lunch and after school tutoring support daily until completed. Until all assignments are completed, students may not be eligible for athletics, clubs, and other extracurricular activities.

Electronic Device Policy: Cell phones, smart watches, and other electronic communication devices that can send and/or receive data are not permitted to be visible, heard, or used in any manner during school hours except by approval of school authorities. Any violation and/or disruption of the learning process will result in the confiscation of the item. The parent/guardian must pick up the confiscated item from the Office of Student Conduct or the teacher.

Computer/Internet Usage Policy: Students may not use computers and/or the GPA network without proper adult supervision. The teacher/staff will choose resources on the Internet that are appropriate for classroom instruction and/or research for the needs, maturity, and ability of their students.

Acceptable Use-

- Access to any site that provides information relevant to current class assignments
- Access to college or university websites
- Use of teacher approved educational software (games, instructional tools, etc.)

Academic Integrity: Honest behavior is an expectation for all students at Gompers Preparatory Academy. Our goal is to create and maintain an ethical academic atmosphere. Acts of academic dishonesty that will not be tolerated at GPA are listed below:

- Cheating on any classroom assignment, test, or quiz



- Plagiarism - copying or representing another's ideas, words, or work as one's own, without properly citing the source. Plagiarism includes the misuse of published material, electronic material, and/or the work of other students. The original writer who intentionally shares his/her work for another to copy, without the permission of the teacher, is also engaged in plagiarism.
- Fabrication (any falsification or invention of date, citation, or other authority in an assignment); theft or alteration of materials
- Unauthorized collaboration
- Unauthorized use of electronic devices

Students found in violation of GPA's Academic Integrity Policy will be disciplined appropriately which may lead to formal suspension. Consequences for offenses may include, but are not limited to, detention, *lowering of academic and citizenship grade and/or suspensions/exclusion from extracurricular activities.*

Standards/Format for Writing Papers - MLA Format:

The standard format for all papers follows the MLA formatting rules:

1. Typed, double-spaced: TIMES NEW ROMAN, 12 font, including title
2. Heading: 4 lines - UPPER LEFT corner
 - Student name: "Sammy Gompers"
 - Teacher name: Ms. Teacher
 - Course name, period: English I, Period 3
 - Date 06 February 2009
3. All pages numbered: upper right corner, last name and page number; no punctuation, no "p." or "pg."
4. Title: centered, upper and lower case
5. Work Cited/ Documentation Format: It is necessary to credit any source that is used in a paper or project. Plagiarism is considered cheating. All sources must be documented. Citing sources in a paper must be thorough and accurate. MLA formatting for in text citations and works cited is mandatory

Important Dates:

Quarter 1:

- Q1 Finals Week: October 23rd and 27th
- Parent Conferences: October 23rd - 27th
- End Date: October 30th

Quarter 2:

- Q2 Finals Week: January 22nd - 26th



- Parent Conferences: January 16th - 22nd
- End Date: January 31st

Quarter 3:

- Q3 Finals Week: April 9th - 13th
- Parent Conferences: April 16th - 20th
- End Date: April 23rd

Quarter 4:

- Q4 Finals Week: May 29th - June 1st
- End Date: June 26th

Student Signature : _____ Parent/Guardian Signature: _____

Date: _____

