

Algebra 2 CP 9/10
Wall High School
2024-2025

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Extra Help Schedule: Extra help will be held on D-Days in C-19. Students will be prepared to bring material that they are having difficulty with for assistance. Students may also use this time to make up assessments and/or missing work.

Marking Period Schedule

Marking Period 1	Marking Period 3
Marking Period 2	Marking Period 4
Midterm Exams	Final Exams

Course Description

This course is intended to build upon student work with linear, quadratic, and exponential functions. Students extend their repertoire of functions to include polynomial, rational, and radical functions. Students work closely with the expressions that define the functions and continue to expand and hone their abilities to model situations and to solve equations, including solving quadratic equations over the set of complex numbers and solving exponential equations using the properties of logarithms. Through the Mathematical Practice Standards students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

Units of Study

Pre-Unit: Algebra Essentials

Unit 1: Quadratic Equations, Functions, & Systems

Unit 2: Polynomial Equations & Functions

Unit 3: Trigonometric Ratios & Functions

Unit 4: Exponents, Roots, & Radicals

Unit 5: Logarithms & Applications of Exponential Functions

Unit 6: Rational Equations & Functions

Unit 7: Sequences & Series

Classroom Expectations

Classroom Norms:

- Cell phones must be kept in the pockets on the side of the classroom.
- Be respectful and supportive of everyone.
- Actively participate in class activities.
- Be prepared. (binder, good attitude, writing utensil, calculator)
- Behave in accordance with the rules of the school.
- Seek out extra help when you need it.

Learning Norms:

- **We value learning over knowing:** True learning is not about speed, memorizing procedures, or “getting done”; it is about ideas, creativity, and sense-making.
- **Collaboration moves our thinking forward:** We listen to and value each other’s ideas, ask questions, push for reasons, and are open to revising our thinking.
- **We are aware of when to step up and step back:** We share our ideas and make space for others to share theirs.

Group Norms:

- **No quitting:** Challenge is normal. We can get stuck and then get ourselves unstuck.
- **No loners:** Everyone participates. No one is done until everyone is done.
- **No spoilers:** Find out what others think and don’t rush to the answer. Help others do things for themselves.

Materials & Available Resources

- Mrs. Aramini’s Google Classroom
- Delta Math
- Math IXL
- Desmos

Grading Breakdown

Each quarter grade is based on a percentage model; the following grading formulas have been established.

Marking Period Category Percentages

Category	Minimum Number	Percentage
Major Assessments	2	40%
Minor Assessments	6	40%
Homework/Classwork	10	20%

Course Grading

Category	Percentage
Marking Period 1	20%
Marking Period 2	20%
Midterm Exam	10%
Marking Period 3	20%
Marking Period 4	20%
Final Exam	10%

Marking Period 1*

Big Ideas	Topics/Themes/Concepts	Activities & Assessments	Timeline (Number of Blocks)
Pre-Unit: Skills from Algebra 1 September 7, 2023-September 14, 2023	Simplifying radicals & solving equations	PTR/Warm-Up	1.0
	Factoring, average rate of change, and graphing linear equations	Direct Instruction, Communicators	2.0
	Graphing systems of linear equations, using the graphing calculator to solve systems of linear equations	Direct Instruction, delta math	2.0
	Solving linear systems of equations by substitution and elimination	Direct Instruction, pixel activity, exit quiz	2.0
Unit 1: Quadratic Equations, Functions, & Systems September 15, 2023-October 18, 2023	Complex Numbers (simplifying radicals and operations)	Direct Instruction, color by numbers	1.0
	Solving quadratic equations (factoring, completing the square, square roots, quadratic formula)	Direct Instruction, tic tac toe review, scavenger hunts	3.0

	<p>Quiz</p> <p>Graphing Quadratic Functions (Vertex & Standard), and identifying transformations of quadratic functions</p> <p>Solving Real Life Applications of Quadratic Functions</p> <p>Solving Linear and Quadratic Systems of Equations</p> <p>Average Rate of Change</p> <p>Unit 1 Assessment Review</p>	<p>Complex Numbers & Solving Quiz</p> <p>Direct Instruction, cut & paste activity</p> <p>Direct Instruction, mixed practice</p> <p>Direct Instruction, mixed practice</p> <p>Direct Instruction, communicator practice</p> <p>Cooperative Learning Groups</p>	<p>0.50</p> <p>1.0</p> <p>1.0</p> <p>1.0</p> <p>0.50</p> <p>0.50</p>
Unit 1 Assessment		Unit Assessment	0.50
<p>Unit 2: Polynomial Equations & Functions</p> <p>October 19, 2023–November 1, 2023</p>	<p>Classifying & Rewriting Polynomials, GCF & Quartic Trinomials</p> <p>Sum & Difference of Cubes</p> <p>Using Synthetic Division to Factor and Graph</p>	<p>Direct Instruction, Mixed Practice</p> <p>Direct Instruction, Riddle Solving</p> <p>Communicators, Cooperative Learning Groups</p>	<p>1</p> <p>1</p> <p>2</p>
Unit 2 Assessment		Unit Assessment	0.50
<p>Quarterly 1</p> <p>November 2, 2023–November 7, 2023</p>	Review all topics covered thus far in Units 1 and 2	Review and Assessment	1-2

Unit 2 Part 2: Polynomial Equations & Functions November 8, 2023- November 17, 2023	Factor by Grouping	Communicators, Cooperative Learning Groups	1
	Using Synthetic Division to Factor and Graph	Small Groups, Task Cards, Stations	2
	Unit 2 Review	Assessment Review	1
Unit 2 Assessment November 20, 2023- November 21, 2023		Unit Assessment	1
Unit 3: Trigonometric Ratios & Functions December 27, 2023 - January 10, 2023	Converting, Drawing Angles, Coterminal Angles	Direct Instruction, small groups, task cards	1
	Reference Angles & Trig ratios	Direct instruction, group matching, Math IXL	2
	Unit 3 Review & Quiz	Small groups, stations review	1
	Evaluating Trigonometric Functions	Direct instruction, small groups, communicators	2
	Graphing Trigonometric Functions	Direct instruction, cooperative learning groups, graphing project	2
	Unit 2 Assessment Review	Small groups, task cards, stations	1
Unit 3 Assessment January 11, 2023- January 12, 2023		Unit 3 Assessment	1
Midterm Exam Review January 16, 2023- January 19, 2023	Quadratic Functions, Polynomial Functions & Trigonometric Functions	Stations, Task cards, Math IXL, small groups	2

Big Ideas	Topics/Themes/Concepts	Activities & Assessments	Timeline (Number of Blocks)
Marking Period 1			
Algebra Essentials	Simplifying radicals & solving equations	PTR/Warm-Up	0.25
	Factoring, average rate of change, and graphing linear equations	Direct Instruction, Communicators	0.75
	Graphing systems of linear equations, using the graphing calculator to solve systems of linear equations	Direct Instruction, card sort activity	1.0
	Solving linear systems of equations by substitution and elimination	Direct Instruction, pixel activity, exit quiz	1.0
Unit 1: Quadratic Equations, Functions, & Systems September 15, 2023-October 24, 2023	Complex Numbers (simplifying radicals and operations)	Direct Instruction, color by numbers	1.0
	Solving quadratic equations (factoring, completing the square, square roots, quadratic formula)	Direct Instruction, tic tac toe review, scavenger hunts	3.0
	Quiz	Complex Numbers & Solving Quiz	0.50
	Graphing Quadratic Functions (Vertex & Standard), and identifying transformations of quadratic functions	Direct Instruction, cut & paste activity	1.0
	Solving Real Life Applications of Quadratic Functions	Direct Instruction, mixed practice	1.0
	Solving Linear and Quadratic Systems of Equations	Direct Instruction, mixed practice	1.0
	Average Rate of Change	Direct Instruction, mixed practice	1.0

	Unit 1 Assessment Review	Direct Instruction, communicator practice	0.50
		Cooperative Learning Groups	0.50
Unit 1 Assessment October 25, 2023 - October 26, 2023		Unit Assessment	0.50
Unit 2 Part 1: Polynomial Equations & Functions October 27, 2023–November 1, 2023	Classifying & Rewriting Polynomials, GCF & Quartic Trinomials	Direct Instruction, Mixed Practice	1
	Sum & Difference of Cubes	Direct Instruction, Riddle Solving	1
Quarterly 1 November 2, 2023–November 7, 2023	Review all topics covered thus far in Units 1 and 2	Review and Assessment	1-2
Marking Period 2			
Unit 2 Part 2: Polynomial Equations & Functions November 8, 2023– November 17, 2023	Factor by Grouping	Communicators, Cooperative Learning Groups	1
	Using Synthetic Division to Factor and Graph	Small Groups, Task Cards, Stations	2
	Unit 2 Review	Assessment Review	1
Unit 2 Assessment November 20, 2023– November 21, 2023		Unit Assessment	1
Unit 3: Trigonometric Ratios & Functions December 27, 2023 -	Converting, Drawing Angles, Coterminal Angles	Direct Instruction, small groups, task cards	1

January 10, 2023	Reference Angles & Trig ratios	Direct instruction, group matching, Math IXL	2
	Unit 3 Review & Quiz	Small groups, stations review	1
	Evaluating Trigonometric Functions	Direct instruction, small groups, communicators	2
	Graphing Trigonometric Functions	Direct instruction, cooperative learning groups, graphing project	2
	Unit 2 Assessment Review	Small groups, task cards, stations	1
Unit 3 Assessment January 11, 2023- January 12, 2023		Unit 3 Assessment	1
Midterm Exam Review January 16, 2023- January 19, 2023	Quadratic Functions, Polynomial Functions & Trigonometric Functions	Stations, Task cards, Math IXL, small groups	2
Marking Period 3			
Midterm Remediation January 30, 2024	Midterm Review	Small Groups, Direct Instruction	1
Linkit! Benchmark 2 January 31-February 1, 2024	Algebra 2 Benchmark	Independent Assessment	1
Unit 4: Exponential & Radical Functions			

**Subject to revision*

Make-up Work as per Student Handbook

- Students who are absent from class for any reason will be required to make-up the work missed in each class. Completion of this work should take approximately the same amount of time as the student missed from class. In extreme cases of prolonged absence, (more than five consecutive days,) the Principal may grant extra time for the students to complete missing assignments. Students will receive an incomplete grade pending the submission of the missing assignments. Students will receive a zero for any work that is not completed by the designated timeline.
- It is the student’s responsibility to obtain all make-up work from his/her teachers immediately upon return to school. Failure to obtain makeup work is no excuse for not completing work missed. Students have the same amount of time that they have been absent to make up the work.

Academic Integrity Policy as per Student Handbook

Plagiarism Policy

- **Freshmen:** On the first offense, the student may rewrite for a maximum grade of 55. The rewrite should be closely monitored by the teacher because on the freshmen level we are concerned with students’ understanding of the process. On the second offense, the student receives a 0 grade for the final product. (Students’ offenses will be filed in the supervisor’s office.)
- **Sophomores, Juniors and Seniors:** If the teacher finds that the plagiarism is flagrant or pervasive and can document the same, the assessment may receive a grade of zero.

Cheating

Students are expected to conduct themselves honestly and with integrity in their work. All forms of cheating and plagiarism are prohibited. Behavior that is unacceptable includes, but is not limited to the following:

- Copying another student’s work;
- Working with others on projects that are meant to be done individually;
- Looking at or copying another student’s test or quiz answers;
- Allowing another student to look at or copy answers from one’s test or quiz;

- Using any other method (ie “cheat sheets”, communicating in any form) to get/give test or quiz answers;
- Taking a test or quiz in part or in whole to use or to give to others;
- Copying information from a source without giving proper acknowledgment;
- Taking papers from other students, publications, or internet sources and claiming it as one’s own work;
- Academic dishonesty in any other form including, but not limited to, tampering with computerized grade records;
- Giving or receiving answers and/or test questions to or from another student.

Violators of this policy will be disciplined on a case-by-case basis, depending on the seriousness of the violation, prior violations and other factors.

Disciplinary measures/consequences may include, but are not limited to the following:

- Redoing the assignment (see policy on plagiarism);
- Receiving a zero grade on the project, test or quiz;
- Letter sent to parent and placed in the student’s file;
- Detention, suspension or expulsion.