

2024-25 LIVE ALGEBRA 2 CLASS SYLLABUS

Tuesdays: 12 PM - 1 PM Central Time

[Can I start working on my course early ?](#)

Orientation: 2 weeks before class starts, parents will receive an orientation video that explains all the information in this syllabus, as well as how to use the eLearning course & Webex. To ensure you receive all emails, please add support@diveintomath.zendesk.com to your contacts in your email account.

Required Supplies:

- **Curriculum:** Purchase the self-paced [eLearning Shormann Algebra 2 with Integrated Geometry](#). While it can be purchased anytime, we recommend at least three weeks before classes start. If you want to start working on the course earlier, please read the article at the top of this page.
- 1-inch 3-ring binder with dividers and college rule or typing paper (typing paper is preferred), mechanical pencils and erasers
- Headphones or speaker (optional: microphone or you can message instead)
- Drawing Compass & Ruler **OR** [GeoGebra App](#) (recommended)
- Calculator: Learn More: [Dr Shormann's Calculator Recommendations](#)
- PDF Binder: You need to be able to convert your handwritten homework into a digital .pdf format with [all pages in one PDF](#). **I recommend an app called TurboScan (~\$10). You can use others but we only provide support for TurboScan.** It can be purchased on the Apple App Store as well as for Android devices. [Click here](#) for step-by-step instructions on using the TurboScan app.

Assignments & Homework: The eLearning Course:

The eLearning course is where students complete daily assignments (video lessons and homework) and take quizzes and exams. Please read the [Teacher's Guide](#) for more information on using the Shormann eLearning course.

Sample weekly schedule for Algebra 2:

Day 1: Do 1 lesson (2 hr).

Day 2: Do 1 lesson (2 hr).

Day 3: Do 1 lesson (2 hr).

Day 4: Do 1 lesson (2 hr)

Day 5: Online Class Meeting. Upload Homework and study for the quiz.

Tips for Success

- **Spread assignments out over at least 4 days.** Doing all the homework in two or three days will decrease fluency.
- **Limit math to an hour and half to two hours per day.** If more time is needed, work on math another 1-2 days.
- **Print and follow the steps on the Practice Set Instructions** (linked on the eLearning home page and Teacher's Guide).
- **Email me right away** if you feel overwhelmed or can't do your work. The longer you wait the further behind you will get and the longer it will take to catch up.

Format for Homework & Notes:

- Use typing paper.
- Fold your paper in half, forming two columns, and work problems vertically in both columns, front and back.
- For problems in the Practice Set, **grade your handwritten work with a red pen**, and mark each problem with an X if incorrect or \checkmark if correct.
- **Rework all missed problems in red**, writing the correct solution next to the missed problem.
- Put your name and lesson number on the top right corner of each page. Show your work. If you don't show work, you will not receive full credit.

Turn in Homework & Lecture Notes Before Class Starts

Your name and assignment number should be on the top right corner of the front page. Remember these things when uploading your homework:

- 1) **PDF is the only acceptable file format.** All homework for one week must be combined into one file, or "PDF binder". Not a "zip" file but a PDF file.
- 2) **don't exceed 5 MB per file.** In other words, the single PDF file containing all your work for that week must not exceed 5 MB in size. Resize your files if necessary.
- 3) **See PDF binder in required supplies on page 3.**

Live Class Meetings: Webex

We use Webex for live class meetings. Each week, you will receive a meeting invitation in your email, which will have a link to attend that week's class.

Class time will involve reviewing the week's lessons, taking a quiz and discussing the results, and answering questions you have. You can also email me during the week with questions at drshormann@gmail.com.

You can ask questions via chat or voice (headset with microphone required). Students use the text area to "chat" publicly with other students. Conversations will end when class begins. Any inappropriate conversations will not be tolerated and will be reported to your parents. If you have a question about a math problem or concept, you can send it to me as either a public or private chat message.

Grading

At the end of the year, the two lowest homework and quiz grades will be dropped. You will receive an evaluation after every quarterly exam. You can check your grade any time online. You will receive a certificate of completion if your average is 75% or greater.

- Homework is worth 20%.
- Class participation is worth 5%, and is based primarily off attendance, plus an obvious effort to respond when questions are asked.
- The four quarterly exams are worth 40%, and the in-class quizzes worth 35%.

Exams

If you have been completing your work at home **with integrity**, making 80% or better on most quizzes, and you follow the [How to Study for Exams](#), you should do well on the quarterly exams.

Absences:

- Class Meetings are recorded.
- To allow for absences, at the end of the year I drop the two lowest weekly quiz grades and two lowest homework upload grades. If you are absent two times or fewer, then the work you didn't turn in will not affect your grade. Of course, you still need to do the work or you will struggle in the remainder of the course.
- I WILL NOT ACCEPT LATE WORK (but I will accept it early if you know you will be missing class on a certain date).

- PLEASE DO NOT ASK TO TURN WORK IN LATE. If you have to miss class more than two times and you are concerned about it affecting your grade, then please talk to me and we will work something out.

Conduct:

A good student will be attentive while I am talking, will come to class prepared and on time, and will treat everyone with respect and kindness. They will also meet the participation requirements described below. Also, do your homework with integrity! If your homework is consistently perfect, but you consistently fail the weekly quizzes, that is almost always a sign of cheating on homework, and you will be asked to drop the class. Strive to be a good student!

Participation:

Getting all your schoolwork done each week can be challenging, but I won't be doing you any favors by letting you get by with little or no homework completed for multiple weeks. At a minimum, each week you must turn in 2 homework assignments and complete the in-class quiz. If, for any 3-week period, you fail to meet the minimum requirement, and/or show little effort to complete more than the minimum requirement, you will be asked to drop the class.

SAT/ACT tests: Together, Shormann Math Algebra 1 and 2 cover all the content on **both** the ACT and SAT exams. Just like you take practice exams to help you prepare for the Shormann Math quarterly exams, we recommend that, prior to your SAT or ACT exam, you use some type of prep course containing at least 2 practice exams. Learn more about how to prepare for [PSAT, SAT, and ACT here](#).

Should you take the CLEP College Algebra exam? Shormann Math Algebra 1 and 2 cover all the content on the CLEP College Algebra Exam. Students who can make 90s or better on the quarterly exams and most quizzes are encouraged to take the CLEP College Algebra exam. This exam can earn up to three college credits, validates your transcript, and can boost applications in the scholarship and admissions application process. Thousands of colleges accept CLEP credits, but even if the college you attend does not accept them, passing a CLEP exam will show the college you plan to attend that you are capable of college-level work. You can use [CLEP Professor College Algebra](#) course to prepare for the CLEP exam.

How to read the Assignment Chart: The chart is set up as a weekly schedule that shows you what work is due each week. Make sure you complete everything in the "Lessons Due" column **BEFORE** you come to class on the Tuesday date listed. Make special note of the 4 quarterly exam dates. On these weeks, students study for their quarterly exam and take the exam during class. Start your new lessons the day after class.

2024-25 Weekly Assignment Chart: Live Algebra 2

HAVE YOUR BINDER, CALCULATOR, AND A PENCIL FOR EVERY CLASS!

IMPORTANT: Saxon Algebra 1, 3rd Edition Students: See [Prep Course](#)

Week #	Class Date	Lessons Due Before Class
1	Aug. 20	Lessons 1-4
2	Aug. 27	Lessons 5-8
No Class - Labor Day	Sep. 3	-
3	Sep. 10	Lessons 9-12
4	Sep. 17	Lessons 13-16
5	Sep. 24	Lessons 17-19
6	Oct. 1	Lessons 20-22
7	Oct. 8	Lessons 23-25
8	Oct. 15	Study for 1st Quarter Exam, take exam during class.
9	Oct. 22	Lessons 26-29
10	Oct. 29	Lessons 30-33
11	Nov. 5	Lessons 34-37
12	Nov. 12	Lessons 38-41
13	Nov. 19	Lesson 42-45
No Class: Thanksgiving Break	Nov. 26	-
14	Dec. 3	Lesson 46-50
15	Dec. 10	Study for 2 nd Quarter Exam, take exam during class.
No Class - Christmas	Dec. 17, 24, 31, Jan 7	-
16	Jan. 14	Lessons 51-54
17	Jan. 21	Lessons 55-58
18	Jan. 28	Lessons 59-62
19	Feb. 4	Lessons 63-66
NO Class - Winter Break	Feb. 11	-
20	Feb. 18	Lessons 67-69
21	Feb. 25	Lessons 70-72
22	Mar. 4	Lessons 73-75
23	Mar. 11	Study for 3 rd Quarter Exam, take exam during class.
No Class - Spring Break	Mar. 18	-
24	Mar. 25	Lessons 76-80
25	Apr. 1	Lessons 81-84
26	Apr. 8	Lessons 85-88
27	Apr. 15	Lessons 89-92
28	April 22	Lessons 93-96
29	April 29	Lessons 97-100
30	May 6	Study for 4 th Quarter Exam, take exam during class.

Course Sequence

Lesson	Assignments
1	Numbers Part I: What is Mathematics? -A Brief History of Number - Types Of Numbers
2	Numbers Part II: Special Number Types - Arithmetic Operations - Exponents
3	Ratio Part I of II: The History Of Ratio - Rational and Irrational Numbers - Simplifying Complex Fractions- Fractions And Square Roots-Logarithms
4	Ratios Part II: Proportion and the Christian Adventure - Word Problems and Proportion - Rate
	Quiz 1
5	Algebra, Part I of IV: Rules of Algebra- Like Terms- Factoring and Canceling- Evaluating Algebraic Expressions
6	Algebra, Part II of IV: Factoring and Expanding Polynomials - Solving Algebraic Equations- Consecutive Integer Word Problems
7	Algebra, Part III of IV: Systems of Linear Equations - Factoring Quadratic Polynomials- Systems of Non-Linear Equations
8	Algebra, Part IV: Finding Roots of Polynomial Equations - Completing the Square- Combined Operations with Whole Number, Variable, and Fractional Exponents
	Quiz 2
9	Geometry, Part I of III: Geometry Fundamentals- Triangle Similarity- Triangle Congruency - Geometry in Art and Architecture
10	Geometry, Part II of III: Inductive Reasoning and Construction Basics - Euclid, Deductive Reasoning and Proof- Euclid's Propositions.
11	Geometry, Part III: Circles and Angles, Circles and Segments- Application to Design
12	Analytical Geometry,Part I of IV: Foundations of Analytical Geometry- Graphing Linear Equations- Functions (Graphic and Symbolic Forms) - Functions, Roots, and Intercepts
	Quiz 3
13	Analytical Geometry, Part II of IV: Modeling Functions Numerically- Modeling Functions Verbally- Operations with Functions - Evaluating Functions

- 14 Analytical Geometry, Part III of IV: Domain and Range from Symbolic Forms - Parallel and Perpendicular Lines- Graphing Linear and Non-Linear Inequalities
- 15 Analytical Geometry, Part IV: Domain and Range from Graphs- Systems of Equations from Word Problems- Systems of Equations and Their Graphs-
- 16 Measurement, Part I of II : Why Standards Matter - Unit Conversions - Scientific Notation - Arc Lengths and Sectors
- Quiz 4**
- 17 Measurement, Part II: Length, Area, and Volume Conversions, Perimeter, Area, Surface Area, and Volume
- 18 Trigonometry, Part I of II: Trigonometry Basics - Special Triangles - Pythagorean Theorem - Trig Identities
- 19 Trigonometry, Part II: Inverse Trig Functions- The Unit Circle - The Parallelogram Law - Graphing Sinusoids
- Quiz 5**
- 20 Calculus, Part I of III: Calculus is About Changing Rates - To Understand Calculus, Believe in Infinitesimals - Limits
- 21 Calculus, Part II of III : Evaluating $f(x + \Delta x)$ - Derivative Means Slope - Derivative of $f(x) = x^2$ -
- 22 Calculus, Part III : More on Limits - Derivative Applications - The Integral -
- Quiz 6**
- 23 Statistics, Part I of II: The Normal Distribution - Measures of Central Tendency - Probability -
- 24 Statistics, Part II : Equation of a Line from a Scatterplot - Statistical Tools - Evaluating Reports and Surveys
- 25 Computer Mathematics : Sums - Sequences - Series - Matrices
- Quiz 7**
- Exam Week:** Practice test 1 & 2, Quarterly Exam 1
- 26 The Algebra of Classes (Sets) : The Algebra of Classes - Union and Intersection of Sets -
- 27 Disjoint Sets, Equivalent Sets, Sets and Number Types : Disjoint Sets, Equivalent Sets - Sets and Number Types -
- 28 Products and Quotients of Rational Expressions; Ratios and Chemical Compounds: Products and Quotients of Rational Expressions - Ratios and Chemical Compounds

- 29 More on Similar Triangles; Overlapping Right Triangles : More on Similar Triangles - Overlapping Right Triangles
- Quiz 8**
- 30 Transversals and Proportion; More on Uniform Motion : Transversals and Proportion - Uniform Motion and Unequal Distances
- 31 Functions and Relations; Even and Odd Functions : Functions and Relations - Even and Odd Functions -
- 32 Nonstandard Solutions in Algebra and Geometry; Nonstandard Evaluations: Nonstandard Solutions in Algebra and Geometry - Nonstandard Evaluations
- 33 Composite Functions; Inverse Functions : Composite Functions - Inverse Functions
- Quiz 9**
- 34 Quadratic Formula; Nonstandard Quadratic Solutions : Quadratic Formula - Nonstandard Quadratic Solutions
- 35 Creating Systems of Equations from Word Problems
- 36 Cartesian Product; More on Sets and Problem Solving : Cartesian Product - More on Sets and Problem Solving
- 37 Rational Equations
- Quiz 10**
- 38 More on Surface Area and Volume
- 39 Graphs and Transformations : Graphs and Symmetry - Graphs and Horizontal, Vertical Shifts
- 40 Euclid's Propositions 4 and 5 : Proposition 4 - Proposition 5
- 41 Exponential Equations : Solving Exponential Equations - Exponential Formulas and Word Problems
- Quiz 11**
- 42 Open and Closed Intervals
- 43 Distance Formula, Midpoint Formula : Distance Between Two Points - Midpoint Formula
- 44 Right Triangle Applications
- 45 Vectors : Rectangular to Polar Coordinates - Polar to Rectangular Coordinates
- Quiz 12**

- 46 Systems of Three Equations and Three Unknowns
- 47 Solving Radical Equations
- 48 Logic and Hypotheses, Conclusions, and Counterexamples; Syllogisms : Logic and Hypotheses, Conclusions, and Counterexamples - Syllogisms
- 49 Percent by Mass of Chemical Compounds and Solutions
- 50 Exponential Growth and Decay
- Quiz 13**
- Exam Week:** Practice tests, Quarterly Exam 2
- 51 The Complex Plane; Operations with Complex Numbers : Graphing Complex Numbers - More on Operations with Complex Numbers
- 52 Complex Conjugates; Value Word Problems with 3 Unknowns : Complex Conjugates - Word Problems with 3 Equations and 3 Unknowns
- 53 More on Evaluating Scientific Formulas
- 54 Systems of Linear Inequalities; Systems of Equations with Nonstandard Solutions : Systems of Linear Inequalities - Systems of Equations with Nonstandard Solutions
- Quiz 14**
- 55 Roots of 3rd Degree and Higher Polynomials
- 56 Polynomial Division
- 57 Inverse Logarithms : Logarithms and Their Inverses - Chemistry Applications
- 58 Triangle Proofs : Triangle Congruency Proofs - Triangle Similarity Proofs
- Quiz 15**
- 59 More Circle Relationships
- 60 Circle Proofs
- 61 Chemical Mixture Problems
- 62 Quadratic Equations with Complex Roots
- Quiz 16**
- 63 Gas Law Problems : The Ideal Gas Law - The Combined Gas Law

- 64 Rate Conversions; Solving Exponential Equations for t : Rate Conversions - Solving Exponential Equations for Time
- 65 Resultant Vectors
- 66 More on Unit Conversions
- Quiz 17**
- 67 Introduction to Conic Sections : Identifying Conic Equations - Nonlinear Systems and Conics
- 68 Graphing Conic Equations, Nonstandard Solutions to Conic Equations : Graphing Conic Equations - Nonstandard Solutions to Conic Equations
- 69 Modeling Sinusoid Patterns
- Quiz 18**
- 70 Reciprocal Trig Ratios, Trig Identities II : Reciprocal Trig Ratios - Trig Identities II
- 71 Solving Trig Equations, Period and Phase Shift in Sinusoids : Solving Trig Equations - Period and Phase Shifts in Sinusoids
- 72 More on Limits : Infinity as a Limit : Some Special Limits
- Quiz 19**
- 73 Derivatives of Polynomials
- 74 Integrals, Part II
- 75 The Normal Distribution, Part II
- Quiz 20**
- Exam Week:** Practice test 5 & 6 , Quarterly Exam 3
- 76 Linear Regression, Scatterplots : Linear Regression - Scatterplots and Nonlinear Patterns
- 77 Truth Tables I: Conjunctions and Disjunctions : Symbolic Logic and Truth Tables - Conjunctions and Disjunctions
- 78 Nonlinear Systems of Conic Equations, Part II
- 79 Truth Tables II: Implications and Negations
- 80 Permutations and Combinations : The Fundamental Counting Principle and Permutations - Combinations
- Quiz 21**

- 81 Truth Tables III: Necessary and Sufficient Conditions
- 82 Interest Rate, Savings and Debt
- 83 Product, Quotient, and Power Rule for Logarithms
- 84 Game Playing with Logarithm Laws; Logarithmic Equations : Game Playing with Logarithm Laws - Logarithmic Equations
- Quiz 22**
- 85 Sum and Difference of Two Squares, Two Cubes : Roots and Sum and Difference of Two Squares - Factoring Sum and Difference of Two Cubes Functions
- 86 Synthetic Division : Synthetic Division and the Remainder Theorem - Synthetic Division and the Factor Theorem
- 87 More Combined Operations with Algebraic Expressions; Infinite Series : More Combined Operations with Algebraic Expressions - Infinite Series
- 88 Quadratic Inequalities
- Quiz 23**
- 89 Proofs of the Pythagorean Theorem
- 90 Trapezoids and Their Midlines
- 91 Non-Euclidean Geometry
- 92 Systems of Nonlinear Inequalities
- Quiz 24**
- 93 Special Volume Conversions
- 94 Resultant Vectors: Force Applications
- 95 Absolute Value Inequalities
- 96 Hardy-Weinberg Equilibrium
- Quiz 25**
- 97 Piecewise Functions
- 98 Integrals, Part III
- 99 Operations with Matrices : Matrix Addition and Subtraction - Matrix Multiplication

100 Pascal's Triangle, Binomial Theorem : Pascal's Triangle - The Binomial Theorem

Quiz 26

Exam Week: Practice test 7 & 8, Quarterly Exam 4