



# COURSE OVERVIEW

## Course Title: Algebra 1

### Teacher: Liz Darnell

*I bring my 25+ years as a math teacher, Saxon training, and experience to the classroom. I encourage unique problem-solving perspectives but will train all students in solid and consistent math strategies that they will be able to build on.*

### Contact Information:

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**The best time to reach me is:** Tuesday or Thursday morning. Check my SETMORE site to schedule an appointment. <https://therockacademy.setmore.com/>

### Course Overview

This course is a rigorous Algebra 1 Course based on incremental development (introducing a wide variety of topics in small pieces) and continual review (repeating skills daily over a period of time until students retain the concepts). Students who are secure in their understanding and application of Algebra I skills are more likely to be successful in future math courses.

Students will be responsible for being present for class, participating in the teaching/learning process, having their homework graded, completed, and turned in on time, asking questions, and requesting help as needed.

Students will be provided with interactive, in-class teaching, weekly videos for reinforcement if needed, weekly Math Lab assistance, and Guided Study time to complete all assignments. If more assistance is necessary, parents may need to hire a private tutor.

### Goals: Each student will be able to:

- Achieve independent mastery of the Algebra skills taught
- Hone their problem-solving skills as it relates to math and other areas of life
- Take on the challenge of math and overcome deficits and/or fear of the subject
- See the beauty of Intelligent Design in all facets of their math experience
- Improve their time management and organizational skills
- Be prepared for standardized testing as well as future math courses

## Algebra 1 Course Overview

| Semester I Weekly Overview  | Semester II Weekly Overview   |
|---|---|
| <b>Week 1</b> – Lessons 1, 2, & 3—Adding & Subtracting Fractions; Geometry Intro; Perimeter, Circumference  | <b>Week 19</b> – Lessons 54, 55, 56—Solving with Substitution; Complex Fractions; Division Rule; Finite & Infinite Sets                                       |
| <b>Week 2</b> – Lessons 4, 5, & 6—Review of Arithmetic; Sets; Absolute Value; Adding Signed Numbers; Rules of Addition & Subtraction  | <b>Week 20</b> – Lessons 57, 58, & 59—Algebraic Expressions w/ Neg Exp; Percent Word Problems; Rearranging Equations <b>TEST 13</b>                           |
| <b>Week 3</b> – Lessons 7, 8, & 9—Opposite of a Number; Simplifying Notations; Area; Rules for Mult/Div Signed Numbers  | <b>Week 21</b> – Lessons 60, 61, 62—Geometric Solids; Subsets of Real Numbers; Square Roots and Higher Orders <b>TEST 14</b>                                  |
| <b>Week 4</b> – Lessons 10, 11, & 12—Division by Zero; Factors; Converting Measures; Order of Operations; Symbols of Inclusion. <b>TEST 1</b>                               | <b>Week 22</b> – Lessons 63, 64, 65, & 66—Product of Sq Roots Rule; Repeating Dec; Domain; Adding Radical Expressions Weighted Avg; Sq Roots of Large Numbers |
| <b>Week 5</b> – Lessons 13, 14, & 15—Products of Signed Numbers; Evaluating Algebraic Expressions; Surface Area <b>TEST 2</b>   | <b>Week 23</b> – Lessons 67, 68, & 69—Equivalent Equations; Elimination; Complex Fractions; Factoring Trinomials;   |
| <b>Week 6</b> –Lessons 16, 17, & 18—Complicated Evaluations; Factors, Terms, Coefficients; Distributive Property; Like Terms <b>QUIZ 1A</b>                                 | <b>Week 24</b> – Lessons 70, 71, & 72—Probability; Trinomials w/ Common Factors; Factors that are Sums; Pyramids & Cones <b>TEST 16</b>                       |
| <b>Week 7</b> – Lessons 19, 20, & 21—Exponents, Powers of Negative Numbers; Evaluating Powers; Volume; Product Rule for Exponents; Like Terms w/ Exp. <b>TEST 4</b>         | <b>Week 25</b> – Lessons 73, 74, & 75—Diff of 2 Squares; Scientific Notation; Equation of a Line; Slope/Intercept   |
| <b>Week 8</b> – Lessons 22, 23, & 24—Expressions; Statements & Sentences; conditional Equations; Additive & Multiplicative Properties of Equality;                          | <b>Week 26</b> – Lessons 76, 77, & 78—Consecutive Integers; Fraction & Decimal Word Problems; Rational Equations  |
| <b>Week 9</b> – Lessons 25, 26 & 27 Solutions of /equations; Complicated Equations; Decimal Equations <b>TEST 5</b> <b>Notebooks Due</b>                                    | <b>Week 27</b> – Lessons 79, 80, & 81—Subscripted Variables; Operations w/ Scientific Notation <b>TEST 18</b> <b>Notebooks Due</b>                            |
| <b>Week 10</b> – Lessons 28, 29, & 30—Fractional Parts of Numbers; Functions; Neg & Zero Exponents; Algebraic Phrases; Decimal Parts of a Number                            | <b>Week 28</b> – Lesson 82, 83, & 84—Evaluation Functions; Domain & Range; Coin Problems; Mult Radicals; Functions  |
| <b>Week 11</b> – Lessons 31, 32, & 33—Equations w/ Parentheses; Word Problems; Products of Prime Factors; Unequal Quantities <b>TEST 7</b>                                  | <b>Week 29</b> – Lessons 85, 86, 87, & 88—Graphs; Div of Polynomials; Testing Functions; Quadratic Equations; Solve by Factoring                              |
| <b>Week 12</b> – Lessons 34, 35, 36, & 37—Factoring the GCF; Cancellation; Distributive Property with Rational Expressions; Positive & Negative Exponents                   | <b>Week 30</b> – Lessons 89, 90, & 91—Value Problems; Word Problems ( 2 Statements of Equality); Mult Property of Inequality; Spheres. <b>TEST 21</b>         |
| <b>Week 13</b> – Lessons 38, 39, & 40—Ratio Problems; Trichotomy Axiom; Negated Inequalities; Ratio Problems; Quotient Rule for Exponents; Negative Exponents <b>TEST 8</b> | <b>Week 31</b> – Lessons 92, 93, & 94—Uniform Motion (Equal Distance); Produces & Quotients of Rational Expressions; Uniform Motion part 2 <b>TEST 22</b>     |
| <b>Week 14</b> – Lessons 41, 42, & 43—Adding Like Terms in Rational Expressions; Multivariable Equations; LCM <b>Quiz 2A</b>  | <b>Week 32</b> – Lessons 95, 96, 97, & 98—Graphs of Non-Linear Functions; Diff of 2 Squares; Pythagorean Theorem; Slope Formula <b>QUIZ 4A</b>                |
| <b>Week 15</b> – Lesson 44 <b>Thanksgiving Break</b>  | <b>Week 33</b> –Lessons 100, 103, 106, 107—Place Value; Lines <b>Quiz 4B</b>  |
| <b>Week 16</b> – Lessons 45, 46, & 47—Range, Median, Mode, Mean; Conjunctions; Percent Problems; <b>TEST 10</b>   | <b>Week 34</b> – Lessons 113, & 118 –Direct & Inverse Variation; Completing the Square; Worksheets/Review   |
| <b>Week 17</b> – Lessons 48, 49, & 50 –Polynomials; Degrees; Add/Mult Polynomials; Polynomial Equations; Ordered Pairs; Coordinate System                                   | <b>Week 35</b> – Lessons 119—The Quadratic Formula; Solving Quadratic Equations; Worksheets/Review  |
| <b>Week 18</b> – Lessons 51, 52, & 53 Graphs of Lines; Overall Average; Power Rule for Exponents Volume <b>TEST 11</b> <b>Notebooks Due</b>                                 | <b>Week 36</b> – <b>Final Test. Notebook Due</b>  |

*This schedule is an overview. TRA reserves the right to make changes during the school year.*

### Supplies Needed for this Course

- Saxon Algebra 1 (Orange) Textbook 3<sup>rd</sup> Edition
- Solutions Manual or Answer Key
- Scientific Calculator (not graphing—typically around \$10)
- 1.5” 3-Ring Binder with 3 dividers
- General Supplies: Pencils, Erasers, Ruler, Paper, (Lined and Graph Paper)

### The Classroom:

- Class starts on time. Tardies and Absences will be recorded
- Students are to come to class PREPARED with their previous homework completed and scored
- Class will include review of previous concepts, and the introduction of new material using a variety of presentations (visual, aural, and tactile) encouraging participation in the process
- Students will practice in class, ask questions, and work together
- Students will clearly know what is expected of them throughout the week based on the Assignment Sheet provided
- Students have access to assistance in class, Guided Study and Math Lab throughout the week.

### At Home or Guided Study

- Have an organized workspace and know where your supplies are
- Put your finished work IN YOUR NOTEBOOK to bring to class
- Have a schedule for completing your daily work
- Mark your Assignment Sheet when a lesson is completed

### How to Get an ‘A’ in this Class:

- Follow directions!
- Be prepared for class
- Ask for help when needed
- Be neat—or be working on being neater and more organized
- Keep up with the assignments and turn things in ON TIME
- Prepare for tests and take them seriously—Always do your best
- Take advantage of the resources provided and show that you are serious about succeeding

### Extra Credit:

- May or may NOT be offered each quarter
- Is not to bail out a student if they have not followed the procedures for the quarter
- When offered, is optional and is only counted in the overall grade if it helps a student’s grade.

### Absence and Late Work Policies

See your FACTS Agreement for these policies. I WILL NOT accept any homework that is over 2 class periods late unless it has been worked out prior with me. **There are no exceptions to this rule!** You must text, email or speak to me to work out a new assignment date for sickness, vacations, or any other EXCUSED ABSENCES.

### Expectations

#### You may expect the Teacher to:

- Be prepared, on time and fair in the classroom.
- Post grades in a consistent and timely manner to FACTS
- Respond to phone or email messages within 24 hours.
- Be available for conferences or discussions per appointment. Please text or use Setmore Site.
- Work hard to see every student succeed.
- Be available by text or email to answer questions or concerns.

#### I will expect the Parents to:

- Be aware of the current assignments for their students.
- Oversee the work at home (even if your child is in Guided Study), making sure that students complete the assignments and have their materials ready to turn in
- Provide the materials the students need to be successful in this class.
- Proctor the Take-Home Tests, signing and sealing them to be returned to class
- Contact the teacher if there are any problems ASAP
- **Check grades AT LEAST every week** on FACTS to see how their child is doing! This is IMPERATIVE.

#### I will expect the Student to:

- Be polite and always have good manners! (See the Code of Conduct)
- Keep current with all assignments.
- Work on keeping organized and neat
- Do all their own work with honesty and integrity
- Ask questions and ask for help when they need it.
- ALWAYS be prepared for class, that includes course material, paper, and writing utensils.
- Check FACTS regularly to see how they are doing.