

Algebra 1 Extra Support Materials

Full Syllabus

Illustrative Mathematics® 9-12 AGA (v.360)

8 Units • Unit Goals • Section Goals • Lesson-by-Lesson Outline

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Course Overview

The Extra Support Materials for Algebra 1 is a companion course to the Illustrative Mathematics 9-12 Algebra 1 curriculum. It provides additional scaffolded support lessons (labeled “(Alg1+)”) that align day-by-day with the lessons of each Algebra 1 unit. Each support lesson revisits the same mathematical ideas with extra structure: building on prior knowledge, slowing down to develop language and procedural fluency, and reinforcing the underlying concepts so that students are prepared to engage successfully with the corresponding Algebra 1 lesson. The course follows the same unit structure as Algebra 1 Units 1–8: One-Variable Statistics; Linear Equations and Systems; Two-Variable Statistics; Linear Inequalities and Systems; Functions; Introduction to Exponential Functions; Introduction to Quadratic Functions; and Quadratic Equations.

The unit sequence is:

- Unit 1: One-Variable Statistics
- Unit 2: Linear Equations and Systems
- Unit 3: Two-Variable Statistics
- Unit 4: Linear Inequalities and Systems
- Unit 5: Functions
- Unit 6: Introduction to Exponential Functions
- Unit 7: Introduction to Quadratic Functions
- Unit 8: Quadratic Equations

Each unit is organized into lettered sections (A, B, C, ...), each of which contains a sequence of supplemental support lessons that align with lessons in the corresponding Algebra 1 unit. Each support lesson is labeled “(Alg1+)” and provides additional scaffolded practice on the same topic. Lessons without additional materials are noted “(No additional materials available).”

Unit 1: One-Variable Statistics

Unit Goal

Students get extra support for the work of Algebra 1 Unit 1: representing, describing, and comparing one-variable data sets using dot plots, histograms, and box plots, calculating measures of center and variability (including standard deviation), and reasoning about outliers in real-world data.

Unit Narrative

These supplemental lessons accompany Algebra 1 Unit 1 “One-Variable Statistics.” Students begin by recalling and (re)building familiar data displays — dot plots, box plots, and histograms — and considering when each is most useful. They examine the shapes of distributions, practice calculating mean, median, MAD, IQR, and standard deviation, and use spreadsheets and other technology to manipulate data. They compare data sets, reason about variability and outliers, and culminate by analyzing data drawn from real-world contexts.

Section A: Getting to Know You (Alg1+)

Section Goals

- Recall how to create and interpret box plots and dot plots.
- Compare box plots, dot plots, and histograms and decide which best fits a given data set.

Section Narrative

These lessons reactivate students’ prior experience with data displays from grades 6–8. Students physically arrange themselves to form human box plots and dot plots, and then think about which display best matches a given context or question.

Lessons

1. **Human Box Plot** — Let’s recall how to create and interpret a box plot.
2. **Human Dot Plot** — Let’s recall how to create dot plots.
3. **Which One?** — Let’s explore the best uses of box plots, dot plots, and histograms.

Section B: Distribution Shapes (Alg1+)

Section Goals

- Describe the shape of a data distribution (symmetric, skewed, uniform, bell-shaped).
- Calculate mean, median, mean absolute deviation (MAD), and interquartile range from a small data set.

Section Narrative

Students focus on the shape of distributions and on careful calculation of the summary statistics they will use throughout the unit.

Lessons

1. **The Shape of Data Distributions** — Let’s explore various shapes of data.
2. **Watch Your Calculations** — Let’s calculate mean, median, mean absolute deviation (MAD), and interquartile range.

Section C: How to Use Spreadsheets (Alg1+)

Section Goals

- Become comfortable using a spreadsheet to enter, organize, and summarize data.

Section Narrative

No additional support materials are provided for the three lessons in this section in this course; students complete the corresponding Algebra 1 spreadsheet lessons.

Lessons

1. **Lesson 6** — (No additional materials available)
2. **Lesson 7** — (No additional materials available)
3. **Lesson 8** — (No additional materials available)

Section D: Manipulating Data (Alg1+)

Section Goals

- Use technology to represent data and calculate statistics.
- Reason about how the shape of a distribution relates to the measures of center.
- Compare data sets and make decisions based on center and variability.
- Interpret standard deviation in real-world contexts.
- Identify and reason about outliers and their effect on summary statistics.

Section Narrative

Students use technology to handle larger data sets, explore the interplay between shape and measures of center, and apply standard deviation, variability, and outlier reasoning to real situations.

Lessons

1. **Using Technology for Statistics** — Let's explore technology used to represent data and calculate statistics.
2. **Measures of Center** — Let's explore the relationship between measures of center and the shape of data.
3. **Decisions, Decisions** — Let's compare data sets.
4. **Variability** — Let's understand variability in situations.
5. **Standard Deviation in Real-World Contexts** — Let's think about standard deviation in the real world.
6. **Outliers and Means** — Let's explore outliers in data sets.
7. **Where Are We Eating?** — Let's use graphical representations to compare real-world scenarios.

Section E: Let's Put It to Work (Alg1+)

Section Goals

- Bring together the unit's ideas to analyze and compare data sets in context.

Section Narrative

A culminating lesson where students apply their statistical tools to a real data set.

Lessons

1. **Compare and Contrast** — Let's analyze data.

Unit 2: Linear Equations and Systems

Unit Goal

Students get extra support for the work of Algebra 1 Unit 2: writing and modeling with equations, manipulating equations and understanding their structure, and solving systems of linear equations in two variables.

Unit Narrative

These supplemental lessons accompany Algebra 1 Unit 2 “Linear Equations and Systems.” Students translate between words and symbols, connect tables, graphs, and equations, develop fluency with the moves used to solve and manipulate linear equations, and analyze systems of two linear equations — including how many solutions a system can have and how to use elimination strategies effectively.

Section A: Writing and Modeling with Equations (Alg1+)

Section Goals

- Use operations and variables to describe situations.
- Translate between verbal descriptions and symbolic equations.
- Read and produce tables that represent relationships.
- Use equations to describe situations and interpret their solutions.
- Connect tables, graphs, and equations of the same relationship.

Lessons

1. **Expressing Mathematics** — Let’s use operations and variables to describe situations.
2. **Words and Symbols** — Let’s use symbols to represent words in a math problem.
3. **Setting the Table** — Let’s look at different ways to represent the same relationships and look closely at tables.
4. **Solutions in Context** — Let’s use equations to describe situations.
5. **Graphs, Tables, and Equations** — Let’s connect different representations.

Section B: Manipulating Equations and Understanding Their Structure (Alg1+)

Section Goals

- Use hanger diagrams to reason about equivalent equations.
- Rewrite equations without changing their value.
- Justify each step when solving an equation.
- Use the structure of an equation to choose efficient solution strategies.
- Match graphs and equations of linear relationships.
- Identify and interpret slope and intercepts on a graph.

Lessons

1. **Equality Diagrams** — Let’s use hanger diagrams to understand equivalent equations.
2. **Why Is That Okay?** — Let’s rewrite equations without changing their value.
3. **Reasoning about Equations** — Let’s justify the steps of solving an equation.

4. **Same Situation, Different Symbols** — Let's think about the how and why of solving equations, and use those ideas to make problems easier.
5. **Equations and Relationships** — Let's match graphs and equations.
6. **Slopes and Intercepts** — Let's analyze parts of a graph.

Section C: Systems of Linear Equations in Two Variables (Alg1+)

Section Goals

- Connect graphs of lines to situations they represent.
- Produce new true equations from existing ones and combine like terms.
- Distinguish solutions and non-solutions of equations and systems.
- Use the elimination method to solve systems of linear equations.
- Reason about the number of solutions of one-variable and two-variable systems.

Lessons

1. **Connecting Situations and Graphs** — Let's examine graphs of lines representing situations.
2. **Making New, True Equations** — Let's practice solving equations.
3. **Making More New, True Equations** — Let's practice combining like terms and working with horizontal and vertical lines.
4. **Off the Line** — Let's study solutions and non-solutions.
5. **Elimination** — Let's learn how to check our thinking when using elimination to solve systems of equations.
6. **Number of Solutions in One-Variable Equations** — Let's look at the number of solutions an equation may have.

Section D: Let's Put It to Work (Alg1+)

Section Goals

- Bring together the unit's ideas to write linear equations from slope and points, and to use linear equations in a modeling task.

Lessons

1. **Putting the Pieces Together** — Let's use the slope and points to write equations.
2. **Graphic Design** — Let's use linear equations to describe an image.

Unit 3: Two-Variable Statistics

Unit Goal

Students get extra support for the work of Algebra 1 Unit 3: organizing categorical data in two-way tables, modeling bivariate numerical data with scatter plots and linear models, and using correlation coefficients to describe the strength of linear association.

Unit Narrative

These supplemental lessons accompany Algebra 1 Unit 3 “Two-Variable Statistics.” Students build two-way frequency and relative-frequency tables, fit linear models to scatter plot data, judge the goodness of those fits, and interpret correlation coefficients.

Section A: Two-Way Tables (Alg1+)

Section Goals

- Organize categorical data using frequency tables.
- Compute and interpret percentages from a table.
- Use relative frequency tables to explore associations between two variables.

Lessons

1. **Human Frequency Table** — Let’s use tables to organize data.
2. **Talking Percents** — Let’s explore percentages.
3. **Associations and Relative Frequency Tables** — Let’s explore relative frequency tables.

Section B: Scatter Plots (Alg1+)

Section Goals

- Interpret linear models drawn through bivariate data.
- Compare lines and judge their goodness of fit to a data set.
- Compare actual data values to predicted values from a linear model.

Lessons

1. **Interpret This, Interpret That** — Let’s explore linear models.
2. **Goodness of Fit** — Let’s explore lines and their goodness of fit for data.
3. **Actual Data vs. Predicted Data** — Let’s explore linear models that are fit to data.

Section C: Correlation Coefficients (Alg1+)

Section Goals

- Reason about how confident we can be in a linear model.
- Interpret correlation coefficients.
- Describe the correlation between two variables in a situation.

Lessons

1. **Confident Models** — Let’s explore our confidence in linear models.
2. **Correlations** — Let’s explore correlations.

3. **What's the Correlation?** — Let's reason about correlation of two variables in a situation.

Section D: Let's Put It to Work (Alg1+)

Section Goals

- Bring together the unit's ideas to interpret a two-variable data set.

Lessons

1. **Putting It All Together** — Let's interpret data.

Unit 4: Linear Inequalities and Systems

Unit Goal

Students get extra support for the work of Algebra 1 Unit 4: writing, graphing, and reasoning about linear inequalities in one and two variables, and solving systems of linear inequalities.

Unit Narrative

These supplemental lessons accompany Algebra 1 Unit 4 “Linear Inequalities and Systems.” Students reason about inequalities on the number line, model real-world constraints with one- and two-variable inequalities, graph their solution regions, and study systems of inequalities — including how to test points and use graphs to find solutions.

Section A: Linear Inequalities in One Variable (Alg1+)

Section Goals

- Explore situations that compare values using inequalities.
- Represent inequalities on a number line.
- Interpret phrases such as “at least,” “at most,” and “up to.”

Lessons

1. **Inequalities in Context** — Let’s explore situations that compare values.
2. **Queuing on the Number Line** — Let’s use a number line to reason about inequalities.
3. **Interpreting Inequalities** — Let’s interpret the meaning of situations with phrases like “at least,” “at most,” and “up to.”

Section B: Linear Inequalities in Two Variables (Alg1+)

Section Goals

- Extend inequality reasoning from one variable to two variables.
- Use inequalities to represent real-world constraints.
- Model constraints from contexts such as banking and insurance.

Lessons

1. **From One- to Two-Variable Inequalities** — Let’s look at inequalities in two dimensions.
2. **Situations with Constraints** — Let’s study situations that have constraints.
3. **Modeling Constraints** — Let’s represent some situations from banking and insurance.

Section C: Systems of Linear Inequalities in Two Variables (Alg1+)

Section Goals

- Reason about graphs of inequalities to find solutions.
- Represent solutions to systems of inequalities both graphically and symbolically.
- Test points to decide whether they satisfy an inequality and critique others’ reasoning.

Lessons

1. **Reasoning with Graphs of Inequalities** — Let’s solve riddles about inequalities.

2. **Representing Systems of Inequalities** — Let's find and represent solutions to situations involving inequalities.
3. **Testing Points to Solve Inequalities** — Let's critique some people's reasoning.

Unit 5: Functions

Unit Goal

Students get extra support for the work of Algebra 1 Unit 5: defining and using functions, interpreting and creating their graphs, examining inputs/outputs and domain/range, and working with inverse functions.

Unit Narrative

These supplemental lessons accompany Algebra 1 Unit 5 “Functions.” Students describe and create graphs of functions, use function notation, examine inputs and outputs (including absolute value and piecewise-style functions), and explore inverse relationships between linear functions.

Section A: Functions and Their Representations (Alg1+)

Section Goals

- Describe key features of graphs.
- Understand points on the graph of a function in a real-world situation.
- Use function notation to talk about specific points.
- Interpret functions presented in different forms.
- Examine multiple representations of the same function.

Lessons

1. **Describing Graphs** — Let’s describe graphs.
2. **Understanding Points in Situations** — Let’s understand points on a function in a situation.
3. **Using Function Notation** — Let’s use function notation to talk about points.
4. **Interpreting Functions** — Let’s interpret some functions.
5. **Function Representations** — Let’s examine different representations of functions.

Section B: Analyzing and Creating Graphs of Functions (Alg1+)

Section Goals

- Find and interpret interesting points on a graph (intercepts, maxima, minima).
- Use slopes of segments to reason about rates of change.
- Read and draw graphs that match given situations.
- Identify intervals on which a function is increasing or decreasing.

Lessons

1. **Finding Interesting Points on a Graph** — Let’s find some interesting points.
2. **Slopes of Segments** — Let’s look at slopes again.
3. **Interpreting and Drawing Graphs for Situations** — Let’s make sense of graphs and situations.
4. **Increasing and Decreasing Functions** — Let’s look at what a graph does based on a situation.

Section C: A Closer Look at Inputs and Outputs (Alg1+)

Section Goals

- Interpret inputs and outputs of a function in context.

- Examine domains and ranges, including in real-world situations.
- Work with functions defined in multiple parts (piecewise).
- Calculate distances between numbers on a number line.
- Investigate the meaning of absolute value.

Lessons

1. **Interpreting Inputs and Outputs** — Let's look at inputs and outputs of a function.
2. **Examining Domains and Ranges** — Let's play with graphs, domains, and ranges in situations.
3. **Functions with Multiple Parts** — Let's look at domains that have boundaries.
4. **Number Line Distances** — Let's calculate distances between numbers.
5. **Absolute Value Meaning** — Let's investigate absolute values.

Section D: Inverse Functions (Alg1+)

Section Goals

- Find input values and function values from a representation.
- Rewrite linear equations to take a different perspective on the relationship.
- Interpret the parts of a function in context.

Lessons

1. **Finding Input Values and Function Values** — Let's play with inputs and outputs of functions.
2. **Rewriting Equations for Perspectives** — Let's match and rewrite linear equations.
3. **Interpreting Function Parts in Situations** — Let's pick apart functions.

Section E: Let's Put It to Work (Alg1+)

Section Goals

- Use functions to model and predict information from a situation.

Lessons

1. **Modeling Price Information** — Let's predict some information.

Unit 6: Introduction to Exponential Functions

Unit Goal

Students get extra support for the work of Algebra 1 Unit 6: extending the meaning of exponents, identifying exponential growth patterns, building and interpreting exponential functions, working with percent growth and decay, and comparing linear and exponential functions.

Unit Narrative

These supplemental lessons accompany Algebra 1 Unit 6 “Introduction to Exponential Functions.” Students review exponents and properties of exponents (including negative exponents), connect verbal, tabular, graphical, and symbolic representations of exponential functions, express percent change with a single growth factor, and contrast exponential and linear behavior.

Section A: Looking at Growth (Alg1+)

Section Goals

- Review the meaning of exponents.
- Compare additive and multiplicative growth patterns.

Lessons

1. **Reviewing Exponents** — Let’s review exponents.
2. **Growth Patterns** — Let’s explore growth patterns.

Section B: A New Kind of Relationship (Alg1+)

Section Goals

- Recall and use the properties of exponents.
- Connect verbal descriptions, equations, tables, and graphs of exponential relationships.
- Work fluently with fractions in equivalent expressions.
- Calculate factors that scale numbers.
- Interpret numbers with negative exponents.

Lessons

1. **Properties of Exponents** — Let’s recall the properties of exponents.
2. **Connections between Representations** — Let’s look at the relationship of verbal descriptions, equations, tables, and graphs.
3. **Working with Fractions** — Let’s write equivalent expressions.
4. **Find That Factor** — Let’s calculate factors that scale numbers.
5. **Negative Exponents** — Let’s explore numbers with negative exponents.

Section C: Exponential Functions (Alg1+)

Section Goals

- Represent exponential functions in multiple ways.
- Describe the domain of a function from its modeling context.
- Calculate and interpret rates of change.

- Build modeling skills using exponential functions.
- Connect graphs and equations of exponential functions.
- Extract information about an exponential function from its graph.

Lessons

1. **Representing Functions** — Let's represent functions.
2. **Interpreting Functions** — Let's describe the domain of a function based on the context it models.
3. **Rate of Change** — Let's calculate the rate of change of some relationships.
4. **Skills for Modeling with Mathematics** — Let's model some situations with mathematics.
5. **Connections between Graphs and Equations** — Let's examine some situations, equations, and graphs.
6. **Representations of Exponential Functions** — Let's get information about a function from its graph.

Section D: Percent Growth and Decay (Alg1+)

Section Goals

- Express increasing or decreasing by a percentage using a single multiplication.
- Iterate percentage changes over multiple steps.
- Compute the effect of repeated percentage changes.
- Work with different compounding intervals (annually, quarterly, monthly).
- Rewrite expressions using properties of exponents.

Lessons

1. **Percentage Increase and Decrease** — Let's express increasing or decreasing by a percentage using only multiplication.
2. **Changing the Score** — Let's keep increasing or decreasing an amount by a percentage.
3. **Over and Over** — Let's change quantities by a percentage several times.
4. **Annually, Quarterly, or Monthly?** — Let's use different time intervals to solve problems.
5. **Bases and Exponents** — Let's rewrite expressions using the property .

Section E: Comparing Linear and Exponential Functions (Alg1+)

Section Goals

- Adjust graphing windows to compare the behavior of linear and exponential functions.
- Evaluate and rewrite expressions over equal intervals to compare growth.

Lessons

1. **Adjusting Windows** — Let's make a graph of a function look different.
2. **Evaluating Functions over Equal Intervals** — Let's evaluate and rewrite expressions.

Section F: Let's Put It to Work (Alg1+)

Section Goals

- Practice modeling situations using the skills developed in the unit.

Lessons

1. **Skills for Mathematical Modeling** — Let's practice our skills for modeling with mathematics.

Unit 7: Introduction to Quadratic Functions

Unit Goal

Students get extra support for the work of Algebra 1 Unit 7: recognizing quadratic change, representing and evaluating quadratic functions, working with quadratic expressions, and analyzing features of their graphs — including vertex form.

Unit Narrative

These supplemental lessons accompany Algebra 1 Unit 7 “Introduction to Quadratic Functions.” Students reason about areas and visual patterns that grow quadratically, evaluate quadratic functions, work with equivalent quadratic expressions and signed numbers, and connect features of quadratic graphs (zeros, intercepts, vertex, axis of symmetry) to vertex form.

Section A: A Different Kind of Change (Alg1+)

Section Goals

- Reason about areas and perimeters of rectangles.
- Describe and extend visual growth patterns.

Lessons

1. **Accessing Areas and Pondering Perimeters** — Let’s think about rectangles.
2. **Describing Patterns** — Let’s explore visual patterns.

Section B: Quadratic Functions (Alg1+)

Section Goals

- Express the area of a rectangle as a quadratic expression.
- Evaluate quadratic and exponential functions fluently.
- Represent the same situation in different but equivalent ways.
- Identify intercepts on graphs of changing situations.
- Represent situations precisely with quadratic functions.

Lessons

1. **Lots of Rectangles** — Let’s express the areas of some rectangles.
2. **Evaluating Quadratic and Exponential Functions** — Let’s work fluently with exponents.
3. **Distance to and Distance From** — Let’s represent the same situation in different ways.
4. **Graphs of Situations That Change** — Let’s identify intercepts on a graph.
5. **Accurate Representations** — Let’s represent situations precisely.

Section C: Working with Quadratic Expressions (Alg1+)

Section Goals

- Write different (equivalent) expressions to represent the same area.
- Operate fluently with signed numbers.
- Connect functions to features of their graphs.

Lessons

1. **Areas and Equivalent Expressions** — Let's write different expressions to represent the same area.
2. **Working with Signed Numbers** — Let's work with signed numbers.
3. **Relating Linear Equations and Their Graphs** — Let's connect functions to features of their graphs.

Section D: Features of Graphs of Quadratic Functions (Alg1+)

Section Goals

- Interpret what happens when a function's input or output is 0.
- Reason about quadratics with negative inputs.
- Interpret tables, graphs, and equations of quadratic functions.
- Notice how the numbers in a quadratic function affect its graph.
- Use vertex form to reason about the graph of a quadratic.
- Describe how changing parameters in vertex form translates the graph.

Lessons

1. **Zeros of Functions and Intercepts of Graphs** — Let's see what happens when a function's input or output is 0.
2. **Changing the Equation** — Let's look at quadratics with negative inputs.
3. **Lesson 13** — (No additional materials available)
4. **Interpreting Representations** — Let's interpret tables, graphs, and equations.
5. **Preparing for Vertex Form** — Let's notice how the numbers in a function affect its graph.
6. **Graphing from the Vertex Form** — Let's use vertex form to reason about a graph.
7. **Parameters and Graphs** — Let's talk about moving graphs around the plane.

Unit 8: Quadratic Equations

Unit Goal

Students get extra support for the work of Algebra 1 Unit 8: finding unknown inputs of quadratic functions, solving quadratic equations by reasoning, factoring, completing the square, and using the quadratic formula, and revisiting vertex form.

Unit Narrative

These supplemental lessons accompany Algebra 1 Unit 8 “Quadratic Equations.” Students explore rectangle areas to motivate the search for unknown inputs, solve quadratic equations in multiple forms, develop the procedure of completing the square, derive and apply the quadratic formula, revisit vertex form, and apply quadratics to situations.

Section A: Finding Unknown Inputs (Alg1+)

Section Goals

- Explore rectangle areas as a source of quadratic equations.
- Examine solutions of equations through graphs.

Lessons

1. **Areas Around Areas** — Let’s explore rectangle areas.
2. **Equations and Graphs** — Let’s explore solutions to equations.

Section B: Solving Quadratic Equations (Alg1+)

Section Goals

- Reason about squares and equations involving squares.
- Work with quadratic equations in standard and factored forms.
- Recall and apply steps in solving equations.
- Explore sums and products of pairs of numbers.
- Operate fluently with integers in quadratic contexts.
- Use multiplication strategies to expand expressions.
- Identify equivalent equations and functions.
- Find and interpret zeros of quadratic functions on a graph.

Lessons

1. **Squares and Equations** — Let’s explore squares.
2. **Equations and Their Zeros** — Let’s work with equations in standard and factored forms.
3. **Steps in Solving Equations** — Let’s recall steps in solving equations.
4. **Sums and Products** — Let’s explore sums and products of numbers.
5. **Integers of Quadratics** — Let’s explore operations with integers.
6. **Multiplying Expressions** — Let’s explore multiplication strategies.
7. **Equivalent Equations and Functions** — Let’s explore equivalent equations.
8. **Quadratic Zeros** — Let’s explore zeros on a graph.

Section C: Completing the Square (Alg1+)

Section Goals

- Identify and work with perfect squares.
- Recognize and convert between different forms of a quadratic equation.
- Reason about the constants in a quadratic equation.
- Rewrite quadratic expressions, including by completing the square.
- Introduce irrational numbers as solutions of quadratic equations.

Lessons

1. **Finding Perfect Squares** — Let's explore perfect squares.
2. **Forms of Quadratic Equations** — Let's explore different forms of quadratic equations.
3. **Constants in Quadratic Equations** — Let's explore the constants in quadratic equations.
4. **Rewriting Quadratic Expressions** — Let's practice rewriting quadratic expressions.
5. **Irrational Numbers** — Let's explore irrational numbers.

Section D: The Quadratic Formula (Alg1+)

Section Goals

- Work with the terms of a quadratic equation.
- Interpret the meaning of quadratic expressions and equations.
- Solve quadratic equations, including with the quadratic formula.
- Recall and justify steps for solving an equation.
- Work with irrational solutions of quadratics.
- Explore properties of even and odd numbers in quadratic reasoning.

Lessons

1. **Working with Quadratics** — Let's explore terms in a quadratic equation.
2. **Quadratic Meanings** — Let's explore the meaning of quadratics.
3. **Solving Quadratics** — Let's work to solve quadratic equations.
4. **Quadratic Steps** — Let's explore steps for solving an equation.
5. **Quadratics and Irrationals** — Let's explore irrational numbers.
6. **Odd and Even Numbers** — Let's explore even and odd numbers.

Section E: Vertex Form Revisited (Alg1+)

Section Goals

- Recall key features of parabolas.
- Evaluate and compare quadratic functions.

Lessons

1. **Features of Parabolas** — Let's recall what we know about parabolas.
2. **Comparing Functions** — Let's evaluate and compare functions.

Section F: Let's Put It to Work (Alg1+)

Section Goals

- Apply quadratic equations to real-world situations.

Lessons

1. **Quadratic Situations** — Let's work with situations and quadratic equations.

About This Syllabus

This syllabus was compiled from the publicly available Illustrative Mathematics® Extra Support Materials for Algebra 1 (9-12 AGA, v.360) at accessim.org. Section titles, lesson titles, and the “Let’s...” student-facing lesson prompts are sourced directly from the teacher view of each unit. Unit goals and narratives reflect the parent Algebra 1 unit that each Extra Support unit accompanies; the full unit narratives on accessim.org load dynamically in the browser. Lessons marked “(No additional materials available)” have no supplemental support content in this course; they are listed for completeness so that lesson numbering aligns with the parent Algebra 1 unit.

Section checkpoints referenced in the source curriculum require a Kendall Hunt educator account and are not included here.

<https://accessim.org/9-12-aga/extra-support-materials-for-algebra-1?a=teacher>