

# Algebra Geometry Blend

This course is for students who have failed Algebra 1 –R and have not passed a Regents exam in Mathematics. Students will be concurrently enrolled in a virtual Algebra 1 platform to address each student’s needs. This blended approach will combine the expertise and guidance under a certified math teacher with the ability to work at an individualized differentiated pace. Students will take the Algebra 1 Common Core Regents Exam in January. During Semester 2, students will be concurrently enrolled in an online introductory Geometry course while still receiving direct instruction from their mathematics teacher. This blended approach will combine the expertise and guidance under a certified math teacher with the ability to work at an individualized differentiated pace. Content will focus on basics of Geometry including terms and definitions. Students will explore congruence, similarity, algebra with angle relationships in parallel lines, triangles, and quadrilaterals.

Linear Functions and Applications	September 2 –Oct 16
Exponential Functions	October 19-November 13
Quadratic Functions	November 16-December 22
Review for Algebra 1 CC Regents Exam	January 4-25
Foundations of Geometry	February 1-March 24
Applications of Geometry	April 4-May 27
Review	May 31- June 13

Topic	Resources	Virtual
<a href="#"><u>Linear Functions and Applications</u></a>		
Equations and Their Solutions	<a href="#"><u>emathinstruction</u></a>	<b>Introduction</b> 01.01 Algebraic Expressions 01.02 Units and Graphs 01.03 Descriptive Modeling and Accuracy 01.04 Algebraic Properties and Equations 01.05 One-Variable Equations 01.06 Two-Variable Equations 01.07 Inequalities 01.08 Compound Inequalities 01.09 Literal Equations 01.10 Addition and Subtraction of Polynomials 01.11 Multiplication of Polynomials  <b>Exploring Linear Functions</b> 02.01 Relations and Functions
A Linear Equation Solving Review	<a href="#"><u>emathinstruction</u></a>	
Linear Word Problems	<a href="#"><u>emathinstruction</u></a>	
Solving Linear Equations With Unspecified Constants	<a href="#"><u>emathinstruction</u></a>	
Solving Linear Inequalities	<a href="#"><u>emathinstruction</u></a>	
More Compound Inequalities	<a href="#"><u>emathinstruction</u></a>	
Graphs of Functions	<a href="#"><u>emathinstruction</u></a>	
EXPLORING FUNCTIONS USING THE GRAPHING CALCULATOR	<a href="#"><u>emathinstruction</u></a>	
THE DOMAIN AND RANGE OF A FUNCTION	<a href="#"><u>emathinstruction</u></a>	

WRITING EQUATIONS OF LINES IN SLOPE-INTERCEPT FORM	<a href="#">emathinstruction</a>	02.02 Function Notation and Graphs
MODELING WITH LINEAR FUNCTION	<a href="#">emathinstruction</a>	02.03 Linear Functions 02.04 Linear Models 02.05 Writing Linear Functions
PROPERTIES OF SYSTEMS AND THEIR SOLUTIONS	<a href="#">emathinstruction</a>	<b><u>Systems of Equations and Inequalities</u></b> 04.01 Solving Systems of Equations Graphically 04.02 Solving Systems of Equations Algebraically 04.03 Solving Systems of Equations Approximately 04.04 Two-Variable Linear Inequalities 04.05 Systems of Linear Inequalities
MODELING WITH SYSTEMS OF EQUATIONS	<a href="#">emathinstruction</a>	
MODELING WITH SYSTEMS OF INEQUALITIES	<a href="#">emathinstruction</a>	

**Key Unit Strategies**

- Using Close Read Strategies (CUBES, Read and Explain)
- Close read Strategies on Multiple Choice Questions
- Close Read Strategies on Open Ended Questions
- Graphing Calculator Strategies (graphing functions, using tables, intersection of functions, finding roots of functions)

Topic	Resources	Virtual

**Exponential Functions**

SIMPLIFYING EXPRESSIONS INVOLVING EXPONENTS	<a href="#">emathinstruction</a>	<b><u>Exploring Exponential Functions</u></b> 03.01 Properties of Exponents 03.02 Operations with Radicals 03.03 Exponential Functions and Models 03.04 Graphing Exponential Functions 03.05 Exploring Linear and Exponential Growth
EXPONENTIAL GROWTH AND DECAY	<a href="#">emathinstruction</a>	
EXPONENTIAL FUNCTIONS	<a href="#">emathinstruction</a>	
EXPONENTIAL MODELS BASED ON PERCENT GROWTH	<a href="#">emathinstruction</a>	
LINEAR VS EXPONENTIAL	<a href="#">emathinstruction</a>	

**Key Unit Strategies**

- \*Using Think Pair Share
- \*Graphing Calculator Strategies (graphing functions, using tables, using regression to find equations of exponential functions)
- \*Using Feedback to Improve Student responses on Open Ended Questions

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<u><a href="#">Quadratic Functions</a></u>		
FACTORIZING POLYNOMIALS	<a href="http://Emathinstruction.com">Emathinstruction.com</a>	<b>Factoring and Quadratic Functions</b> 05.01 Greatest Common Factor 05.02 Factoring Trinomials 05.03 Difference of Perfect Squares 05.04 Polynomial Functions 08.08 Exploring Graphs of Polynomials 05.05 Quadratic Models 05.06 Quadratics and Completing the Square 05.07 Quadratics and the Quadratic Formula 05.08 Applications of Quadratic Functions 05.09 Exploring Non-Linear Systems and Growth
FACTORIZING BASED ON CONJUGATES	<a href="http://Emathinstruction.com">Emathinstruction.com</a>	
FACTORIZING BASED ON CONJUGATES	<a href="http://Emathinstruction.com">Emathinstruction.com</a>	
MORE FACTORIZING TRINOMIALS	<a href="http://Emathinstruction.com">Emathinstruction.com</a>	
MORE WORK WITH PARABOLAS	<a href="http://emathinstruction">emathinstruction</a>	
COMPLETING THE SQUARE	<a href="http://emathinstruction">emathinstruction</a>	
THE ZEROES OF A QUADRATIC	<a href="http://emathinstruction">emathinstruction</a>	
MORE ZERO PRODUCT LAW	<a href="http://emathinstruction">emathinstruction</a>	
QUADRATIC WORD PROBLEMS	<a href="http://emathinstruction">emathinstruction</a>	
QUADRATIC MODELS	<a href="http://emathinstruction">emathinstruction</a>	

**Key Unit Strategies**

- \*Graphing Calculator Strategies (graphing functions, using tables, finding the coordinates of the vertex of a parabola)
- \*Using Feedback to Improve Student responses on Open Ended Question
- \*Student Scoring of Work Using Rubrics and Guide Papers

**Review for Algebra 1 Common Core Regents Exam**

**Foundations of Geometry**

		Virtual
Understanding Points, Lines and Planes	<b>Holt Geometry Lesson 1</b>	<b>Basics of Geometry</b> 01.01 Basics of Geometry 01.02 Basic Constructions  <b>Transformations</b> 02.00 Module Two Pretest 02.01 Translations 02.02 Reflections 02.03 Rotations 02.04 Module Two Quiz 02.05 Rigid Motion and Congruence
Measuring and Constructing Segments	<b>Holt Geometry Lesson 2</b>	
Measuring and Constructing Angles	<b>Holt Geometry Lesson 3</b>	
Pairs of Angles	<b>Holt Geometry Lesson 4</b>	
Using Formulas in Geometry	<b>Holt Geometry Lesson 5</b>	
Midpoint and Distance in the Coordinate Plane	<b>Holt Geometry Lesson 6</b>	
Transformations in the Coordinate Plane	<b>Holt Geometry Lesson 7</b>	

Module 1 Lesson 12: Transformations- The Next Level	<a href="#">Geometry Module 1 on EngageNY</a>	
Module 1 Lesson 13: Rotations	<a href="#">Geometry Module 1 on EngageNY</a>	
Module 1 Lesson 14: Reflections	<a href="#">Geometry Module 1 on EngageNY</a>	
Module 1 Lesson 15: Rotations, Reflections, and Symmetry	<a href="#">Geometry Module 1 on EngageNY</a>	
Module 1 Lesson 16: Translations	<a href="#">Geometry Module 1 on EngageNY</a>	
Module 1 Lesson 19: Sequence of Rigid Motion	<a href="#">Geometry Module 1 on EngageNY</a>	
<b>Similarity</b>		
Module 2, Lesson 1: Scale Drawings	<a href="#">Geometry Module 2 on EngageNy</a>	<b>Similarity</b> 04.01 Dilations 04.02 Similar Polygons 04.03 Module Four Quiz 04.04 Similar Triangles 04.05 Module Four Activity 04.06 Module Four Review and Practice Exam 04.07 Module Four Discussion- Based Assessment 04.08 Module Four Exam Part One 04.08 Module Four Exam Part Two
Module 2, Lesson 2: Making Scale Drawings Using the Ratio Method	<a href="#">Geometry Module 2 on EngageNy</a>	
Module 2, Lesson 4: Comparing the Ratio Method with the Parallel Method	<a href="#">Geometry Module 2 on EngageNy</a>	
Module 2, Lesson 6: Dilations as Transformations in the Plane	<a href="#">Geometry Module 2 on EngageNy</a>	
Module 2, Lesson 7: How Do Dilations Map Segments?	<a href="#">Geometry Module 2 on EngageNy</a>	
Module 2, Lesson 8: How Do Dilations Map Rays, Lines and Circles?	<a href="#">Geometry Module 2 on EngageNy</a>	
Module 2, Lesson 9: How Do Dilations Map Angles?	<a href="#">Geometry Module 2 on EngageNy</a>	
Module 2, Lesson 12: What Are Similarity Transformations and Why do We Need Them?	<a href="#">Geometry Module 2 on EngageNy</a>	
Module 2, Lesson 13: Properties of Similarity Transformations	<a href="#">Geometry Module 2 on EngageNy</a>	
Module 2, Lesson 14: Similarity	<a href="#">Geometry Module 2 on EngageNy</a>	
Module 2, Lesson 25: Incredibly Useful Ratios	<a href="#">Geometry Module 2 on EngageNy</a>	<b>Trigonometry</b> 07.01 Solving Right Triangles 07.02 Trigonometric Ratios 07.03 Module Seven Quiz 07.04 Applying Trigonometric Ratios
Module 2, Lesson 26: The Definition of Sine, Cosine, and Tangent	<a href="#">Geometry Module 2 on EngageNy</a>	
Module 2, Lesson 28: Solving Problems Using Sine and Cosine	<a href="#">Geometry Module 2 on EngageNy</a>	

Module 2, Lesson 29: Applying Tangents	<a href="#">Geometry Module 2 on EngageNy</a>	07.05 Module Seven Activity
Module 2, Lesson 30: Trigonometry and the Pythagorean Theorem	<a href="#">Geometry Module 2 on EngageNy</a>	07.06 Module Seven Review and Practice Exam
Module 2, Lesson 34: Unknown Angles	<a href="#">Geometry Module 2 on EngageNy</a>	07.07 Module Seven Discussion-Based Assessment
		07.08 Module Seven Exam Part One
		07.08 Module Seven Exam Part Two
		<b>Volume</b>
		08.00 Module Eight Pretest
		08.01 Formulas
		08.02 Applications of Volume
		08.03 Module Eight Quiz
		08.04 Density
		08.05 3-D Polyhedra
		08.06 Module Eight Activity
		08.07 Module Eight Review and Practice Exam
		08.08 Module Eight Discussion-Based Assessment