

Syllabus for Algebra 1 to Geometry

2026 Spring

	Topic	Knowledge Points	Common Core		Topic	Knowledge Point	Common Core
1	Linear Equations Enhancement	1. Basics and Properties of Linear Equations 2. Advanced Transformation of Linear Equations 3. Application of Linear Equations	8.F.B.4-5 HSF.IF.B.4			1. Identify Arithmetic Sequences and the Common Difference 2. Identify Geometric Sequences and the Common Ratio 3. Recursive and Explicit Formulas of Arithmetic Sequences 4. Recursive and Explicit Formulas of Geometric Sequences	
2	Piecewise-Defined Function	1. Writing Piecewise-Defined Functions with Function Notation 2. Finding Domain and Range 3. Evaluating and Graphing Piecewise-Defined Functions	HSF.IF.A.1-2 HSF.IF.B.4-5	10	Arithmetic and Geometric Sequences		HSF.LE.A.2
3	Quadratic Functions I	1. Definition of Quadratic Functions 2. Graphing Quadratic Functions 3. Properties of Quadratic Functions 4. Solving Quadratic Equations by Graphing	HSF.LE.A.1-A.4 HSF.LE.B.5	11	Definition and Representation of Sets	1. Definition of Sets 2. Representation of Sets	
4	Quadratic Functions II	1. Vertex Form of Quadratic Functions 2. Intercept Form of Quadratic Functions 3. Transformation of Quadratic Functions	HSF.LE.A.1-A.4 HSF.LE.B.5 HSA.REI.D.10	12	Relation and Operation of Sets	1. Relation of Sets 2. Operations of Sets	
5	Quadratic Functions III	1. Solve Quadratic Inequalities 2. Modeling with Quadratic Functions	HSF.LE.A.1-A.4 HSF.LE.B.5 HSA.REI.D.10	13	Statistics	1. Dot Plots and Box Plots 2. Scatter Plots and Correlation 3. The Best-Fit Line	HSS.ID.A.1 HSS.ID.B.6
6	Exponential Functions I	1. Definition of Exponential Functions 2. Writing and Graphing Exponential Growth Functions 3. Comparing the Graphs of Exponential Growth Functions 4. Modeling with Exponential Growth Functions	HSF.LE.A.1-A.4 HSF.LE.B.5	14	Essentials of Geometry	1. Points, Lines and Planes 2. Segments and Rays and Distance 3. Angles	HSG.CO.A.1
7	Exponential Functions II	1. Writing and Graphing Exponential Decay Functions 2. Comparing the Graphs of Exponential Decay Functions 3. Modeling with Exponential Decay Functions	HSF.LE.A.1-A.4 HSF.LE.B.5	15	Deductive Reasoning	1. Reason Use Properties from Algebra 2. Proving Theorems	HSG.CO.C.9
8	Complex Numbers	1. Definition of Imaginary Numbers 2. Solving Radicals with Negative Radicants 3. Definition of Complex Numbers 4. Adding and Subtracting of Complex Numbers	HSN.CN.A.1-2 HSN.CN.B.5	16	Theorems about Angles and Perpendicular Lines	1. Special Pairs of Angles 2. Perpendicular Lines 3. Planning a Proof	HSG.CO.A.1
9	Complex Solutions of Quadratic Equations	1. Review on the Methods of Solving Quadratic Equations 2. Solving Quadratic Equations with Complex Numbers	HSN.CN.C.7-8	17	Applications of Linear Equations	1. The Area of Triangles in Linear Equations 2. Determine the Linear Equation with Given Area of the Triangle 3. Determine the Linear Equation with the Ratio of the Triangles	HSA.REI.D.12
				18	Properties of Proportion, Similar Polygons	1. Review of Ratio and Proportion 2. Properties of Proportion 3. Similar Polygons	HSG.SRT.B.5



Syllabus for Geometry Vol.2

2026 Spring

Honors



	Topic	Knowledge Point
1	Angles in Circles - Part 1	1. Central Angles 2. Inscribed Angles
2	Position of Points and Lines with respect to a Circle	1. Position of Points with Respect to a Circle 2. Position of Lines with Respect to a Circle
3	Power of a Point	1. Intersecting Chords Theorem 2. Tangent-Secant Theorem 3. Intersecting Secants Theorem
4	Angles in Circles - Part 2	1. Cyclic Quadrilateral 2. Other Angles
5	Prisms and Pyramids	1. Prisms 2. Pyramids
6	Cylinders and Cones	1. Cylinders 2. Cones
7	Similar Solids and Spheres	1. Similar Solids 2. Spheres

	Topic	Knowledge Point
8	Transformations-Part 1	1. Mapping and Functions 2. Reflections
9	Transformations-Part 2	1. Translation 2. Rotation 3. Dilation
10	Composition	1. Composite of Mappings 2. Inverses and the Identity
11	Coordinate Proofs	1. Organizing Coordinate Proofs 2. Coordinate Proofs
12	Equation of a Circle and Equations of Parabolas	1. Equation of a Circle 2. Equations of Parabolas
13	Permutation and Combination	1. Definition of Permutations and Combinations 2. Methods of Permutations and Combinations
14	Probability-Part 1	1. Sample Spaces 2. Venn Diagrams 3. Addition Rule
15	Probability-Part 2	1. Conditional Probability 2. Multiplication Rule