

# **GEOMETRY HONORS SYLLABUS**

2018-2019 Academic School-Year

## **1<sup>st</sup> Marking Period**

### Chapter 1: Basics of Geometry (Test 1.1-1.6)

- 1.1 Points, Lines, and Planes (*NJSLS-G-CO.A.1*)
- 1.2 Measuring and Constructing Segments (*NJSLS-G-CO.A.1; NJSLS-G-CO.B.7; NJSLS-A-CED.A.1*)
- 1.3 Use Midpoint and Distance Formulas (*NJSLS-G-GPE.B.7*)
- 1.4 Perimeter and Area in the Coordinate Plane (*NJSLS-G-CO.A.1*)
- 1.5 Measuring and Constructing Angles (*NJSLS-G-CO.A.1; NJSLS-G-CO.B.7; NJSLS-G-CO.D.12*)
- 1.6 Describing Pairs of Angles (*NJSLS-G-MG.A.1*)

### Chapter 2: Reasoning and Proof (Test 2.1-2.6)

- 2.1 Conditional Statements (*NJSLS-G-CO.C.9; NJSLS-G-CO.C.10; NJSLS-G-CO.C.11*)
- 2.2 Inductive and Deductive Reasoning (*NJSLS-G-CO.C.9; NJSLS-G-CO.C.10; NJSLS-G-CO.C.11*)
- 2.3 Postulates and Diagrams (*NJSLS-G-CO.A.1; NJSLS-G-CO.C.9*)
- 2.4 Algebraic Reasoning (*NJSLS-A-REI.A.1; NJSLS-G-CO.C.9; NJSLS-G-CO.C.10; NJSLS-G-CO.C.11*)
- 2.5 Proving Statements about Segments and Angles (*NJSLS-G-CO.A.1; NJSLS-G-CO.C.9; NJSLS-G-CO.C.10; NJSLS-G-CO.C.11*)
- 2.6 Proving Geometric Relationships (*NJSLS-G-CO.C.9*)

### Chapter 3: Parallel and Perpendicular Lines (Test 3.1-3.6)

- 3.1 Pairs of Lines and Angles (*NJSLS-G-CO.A.1; NJSLS-G-CO.C.9; NJSLS-G-CO.D.12*)
- 3.2 Parallel Lines and Transversals (*NJSLS-G-CO.C.9*)
- 3.3 Proofs with Parallel Lines (*NJSLS-G-CO.C.9*)
- 3.4 Proofs with Perpendicular Lines (*NJSLS-G-CO.C.9*)
- Review 3.5 Write and Graph Equations of Lines (*NJSLS-F-IF.B.5, NJSLS-F-IF.B.6*)

## 2<sup>nd</sup> Marking Period

### Chapter 5: Congruent Triangles (Test 5.1-5.7)

- 5.1 Angles of Triangles (*NJSLS-G-CO.C.10, NJSLS-G-MG.A.1*)
- 5.2 Congruent Polygons (*NJSLS-G-CO.B.7*)
- 5.3 Prove Triangles Congruent by SAS (*NJSLS-G-CO.B.8, NJSLS-G-MG.A.1*)
- 5.4 Equilateral and Isosceles Triangles (*NJSLS-G-CO.C.10, NJSLS-G-CO.D.13, NJSLS-G-MG.A.1*)
- 5.5 Prove Triangles Congruent by SSS (*NJSLS-G-CO.B.8, NJSLS-G-MG.A.1, NJSLS-G-MG.A.3*)
- 5.6 Proving Triangles Congruent by ASA and AAS (*NJSLS-G-CO.B.8*)
- 5.7 Using Congruent Triangles (*NJSLS-G-SRT.B.5*)

### Chapter 6: Relationships Within Triangles (Test 6.1-6.5)

- 6.1 Perpendicular and Angle Bisectors (*NJSLS-G-CO.C.9, NJSLS-G-MG.A.1*)
- 6.2 Bisectors of Triangles (*NJSLS-G-CO.D.12, NJSLS-G-C.A.3, NJSLS-G-MG.A.1, NJSLS-G-MG.A.3*)
- 6.3 Medians and Altitudes of Triangles (*NJSLS-G-CO.C.10*)
- 6.4 The Triangle Midsegment Theorem (*NJSLS-G-CO.C.10, NJSLS-G-MG.A.1*)
- 6.5 Indirect Proof and Inequalities in One Triangle (*NJSLS-G-CO.C.10*)
- \*\*Only cover inequalities in one triangle (not indirect proofs)
- 6.6 Inequalities in Two Triangles (*NJSLS-G-CO.C.10*)

## 3<sup>rd</sup> Marking Period

### Chapter 8: Similarity (Test 8.1-8.4)

- 8.1 Similar Polygons (*NJSLS-G-SRT.A.2, NJSLS-G-MG.A.3*)
- 8.2 Proving Triangle Similarity by AA (*NJSLS-G-SRT.A.3, NJSLS-G-SRT.B.5*)
- 8.3 Proving Triangle Similarity by SSS and SAS (*NJSLS-G-SRT.B.4, NJSLS-G-SRT.B.5, NJSLS-G-GPE.B.5, NJSLS-G-MG.A.1*)
- 8.4 Proportionality Theorems (*NJSLS-G-SRT.B.4, NJSLS-G-SRT.B.5, NJSLS-G-GPE.B.6*)

### Chapter 9: Right Triangles and Trigonometry (Test 9.1-9.7)

- 9.1 The Pythagorean Theorem (*NJSLS-G-SRT.B.4, NJSLS-G-SRT.C.8*)
- 9.2 Special Right Triangles (*NJSLS-G-SRT.C.8, NJSLS-G-MG.A.1*)
- 9.3 Similar Right Triangles (*NJSLS-G-SRT.B.5*)
- 9.4 The Tangent Ratio (*NJSLS-G-SRT.C.6, NJSLS-G-SRT.C.8*)
- 9.5 The Sine and Cosine Ratios (*NJSLS-G-SRT.C.6, NJSLS-G-SRT.C.7, NJSLS-G-SRT.C.8*)
- 9.6 Solving Right Triangles (*NJSLS-G-SRT.C.8, NJSLS-G-MG.A.1, NJSLS-G-MG.A.3*)
- 9.7 Law of Sines and Law of Cosines (*NJSLS-G-SRT.D.10, NJSLS-G-SRT.D.11, NJSLS-G-MG.A.3*)

### Chapter 7: Quadrilaterals and Other Polygons (Test 7.1-7.5)

- 7.1 Angles of Polygons (*NJSLS-G-CO.C.11*)
- 7.2 Properties and Parallelograms (*NJSLS-G-CO.C.11, NJSLS-G-SRT.B.5*)
- 7.3 Proving That a Quadrilateral is a Parallelogram (*NJSLS-G-CO.C.11, NJSLS-G-SRT.B.5, NJSLS-G-MG.A.1*)
- 7.4 Properties of Special Parallelograms (*NJSLS-G-CO.C.11, NJSLS-G-SRT.B.5, NJSLS-G-MG.A.1, NJSLS-G-MG.A.3*)
- 7.5 Properties of Trapezoids and Kites (*NJSLS-G-SRT.B.5, NJSLS-G-MG.A.1*)

## 4<sup>th</sup> Marking Period

### Chapter 10: Circles (Test 10.1-10.7)

10.1 Lines and Segments that Intersect Circles (*NJSLS-G-CO.A.1, NJSLS-G-C.A.2, NJSLS-G-C.A.4*)

10.2 Finding Arc Measures (*NJSLS-G-C.A.1, NJSLS-G-C.A.2*)

10.3 Using Chords (*NJSLS-G-C.A.2, NJSLS-G-MG.A.3*)

10.4 Inscribed Angles and Polygons (*NJSLS-G-CO.D.13, NJSLS-G-C.A.2, NJSLS-G-C.A.3*)

10.5 Angle Relationships in Circles (*NJSLS-G-C.A.2*)

10.6 Segment Relationships in Circles (*NJSLS-G-C.A.2, NJSLS-G-MG.A.1*)

10.7 Circles in the Coordinate Plane (*NJSLS-G-GPE.A.1, NJSLS-G-GPE.B.4*)

### Chapter 11: Circumference, Area, and Volume (Test 11.1-11.8)

11.1 Circumference and Arc Length (*NJSLS-G-GMD.A.1, NJSLS-G-C.B.5, NJSLS-G-CO.A.1*)

11.2 Areas of Circles and Sectors (*NJSLS-G-GMD.A.1, NJSLS-G-MG.A.2, NJSLS-G-C.B.5*)

11.3 Areas of Polygons (*NJSLS-G-GMD.A.3*)

11.4 Three-Dimensional Figures (*NJSLS-G-GMD.B.4*)

11.5 Volumes of Prisms and Cylinders (*NJSLS-G-GMD.A.1, NJSLS-G-GMD.A.2, NJSLS-G-GMD.A.3, NJSLS-G-MG.A.3, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3*) (*Formulas Given*)

11.6 Volumes of Pyramids (*NJSLS-G-GMD.A.1, NJSLS-G-GMD.A.3, NJSLS-G-MG.A.1*) (*Formulas Given*)

11.7 Surface Area and Volumes of Cones (*NJSLS-G-GMD.A.1, NJSLS-G-GMD.A.3*) (*Formulas Given*)

11.8 Surface Area and Volumes of Spheres (*NJSLS-G-GMD.A.2, NJSLS-G-GMD.A.3, NJSLS-G-MG.A.1*) (*Formulas Given*)

### Course Expectations and Skills

- Students are required to have proficiency in all topics for Algebra 1. Those who do not demonstrate proficiency will be required to seek additional help after school to close their achievement gap in order to be successful in this course.
- Students are required to take notes and maintain those notes in a neat and organized notebook.
- Students are required to have a scientific calculator.
- Students are required to participate in both small and large group discussions and activities, as directed.
- Students are required to complete a project each marking period, including those which require the use of technology.

### Resources

Text Book: *Geometry*, Big Ideas Math

Supplemental Materials: *Geometry Practice Workbook*  
*Dynamic Geometry Software*  
*Geometer's Sketchpad*  
*Kuta Infinite Geometry*

### Assessment Information

#### Department of Mathematics – Geometry (2018-2019)

Marking Period 1	Marking Period 2	Marking Period 3	Marking Period 4
Major (MAJ): Summative: 30%	Major (MAJ): Summative: 30%	Major (MAJ): Summative: 30%	Major (MAJ): Summative: 30%
Benchmark (BMK): 20%	Benchmark (BMK): 20%	Benchmark (BMK): 20%	Benchmark (BMK): 20%
Project (PRJ): 10%	Project (PRJ): 10%	Project (PRJ): 10%	Project (PRJ): 10%
Minor (MIN): Formative: 25%	Minor (MIN): Formative: 25%	Minor (MIN): Formative: 25%	Minor (MIN): Formative: 25%
Class Participation (CP): 5%	Class Participation (CP): 5%	Class Participation (CP): 5%	Class Participation (CP): 5%
Homework (HW): 10%	Homework (HW): 10%	Homework (HW): 10%	Homework (HW): 10%