

Carson City School District  
Carson City, Nevada

Geometry Math Curriculum Map  
High School

**KEY TO PRIORITY FRAMEWORK AND ASSESSMENT LEVEL**

**E = Enduring. Complex, engaging, “big ideas”, will require more in-depth knowledge.**

**I = Important to know and do. Students should retain detailed but not extensive knowledge.**

**W = Worth being familiar with. Students should have awareness of key people, ideas, concepts, and terms.**

**L = Nevada Academic Standards that are assessable at the local level ONLY.**

**S = Nevada Academic Standards that are assessable at the state and local levels.**

**As an example the letters E/L would indicate that the standard requires enduring knowledge and will only be assessed at the local level.**

**KEY TO INTERDISCIPLINARY LINKS**

**C = Civics   E = English Language Arts   Ec = Economics   G = Geography  
H = History   M = Mathematics   S = Science   He = Health**

**RESOURCE KEY**

**ML:G = McDougal-Littel Geometry**

**Content Organization: The problem solving and mathematical communication/reasoning/connection standards (6.0 – 9.0) are to be introduced and reinforced throughout the year.**

**Content Standard 1.0: Number Sense/Computation** – *Students will accurately calculate and use estimation techniques, number relationships, operation rules and algorithm; they will determine the reasonableness of answers and the accuracy of solutions.*

**Content Standard 2.0: Patterns/Algebraic Thinking** – *Students will use various algebraic methods to analyze, illustrate, extend, and create numerous representations (words, numbers, tables, and graphs of patterns, functions, and algebraic relations as modeled in practical situations.*

**Content Standard 3.0: Measurement** – *Students will use appropriate tools and techniques of measurement to determine, estimate, record and verify direct and indirect measurements.*

**Content Standard 4.0: Geometry** – *Students will identify, represent, verify and apply spatial relationships and geometric properties.*

**Content Standard 5.0: Data Analysis/Statistics** – *Students will collect, organize, display, interpret and analyze data to determine statistical relationships and probability projections.*

**Process Standard 6.0: Problem Solving** – *Students will develop their ability to solve problems by engaging in developmentally appropriate problem solving opportunities in which there is a need to use various approaches to investigate and understand mathematical concepts in order to formulate their own problems; find solutions to problems from everyday situations; develop and apply strategies to solve a wide variety of problems; and integrate mathematical reasoning, communication and connections.*

**Process Standard 7.0: Mathematical Communication**– *Students will develop their ability to communicate mathematically by solving problems in which there is a need to obtain information from the real world through reading, listening, and observing in order to transfer this information into a mathematical language and symbols; process this information mathematically; and present results in written, oral and visual formats.*

**Process Standard 8.0: Mathematical Reasoning** - *Students will develop their ability to reason mathematically by solving problems in which there is a need to investigate significant mathematical ideas and construct their own learning in all content areas in order to justify their thinking; reinforce their logical reasoning abilities; reflect on and clarify their own thinking; and ask questions to extend their thinking.*

**Process Standard 9.0: Mathematical Connections** - *Students will develop the ability to make mathematical connections by solving problems in which there is a need to view mathematics as an integrated whole, identifying relationships between context strands, and integrating mathematics with other disciplines, allowing the flexibility to approach problems in a variety of ways within and beyond the field of mathematics.*

<b>Carson City School District Curriculum Map: Geometry</b>				
<b>Content Standards</b>	<b>Objective</b>	<b>ML:G</b>	<b>Priority</b>	<b>Process Standards</b>
<b>Quarter One Skills</b>				
1.12.3	Use properties of Algebra to justify steps to algebraic solutions		<b>I/S</b>	8.12.3,5,8,10 9.12.2
2.12.3 3.12.5	Use the distance formula	1.4	<b>E/S</b>	6.12.2
2.12.3 4.12.5	Find linear equations in both standard and slope-intercept form	3.7	<b>E/S</b>	6.12.2 8.12.8 9.12.1,2
2.12.3 3.12.2,3	Find the perimeter and area of common shapes including circles	1.7	<b>E/S</b>	9.12.1
2.12.3,5	Find and describe patterns (inductive reasoning)	1.1	<b>E/S</b>	7.12.14 8.12.4,6 9.12.1,3
2.12.3,5	Use defined and undefined geometric terms	1.2	<b>E/S</b>	7.12.1,2,11,14 8.12.1.
2.12.3,5	Use segment and angle postulates	1.3	<b>E/S</b>	7.12.1,11,14
2.12.5 4.12.5	Write equations of parallel and perpendicular lines	3.8	<b>E/S</b>	6.12.2 8.12.8 9.12.1,2
3.12.2 4.12.6,8	Construct parallel and perpendicular lines	3.6	<b>I/S</b>	6.12.2 8.12.8 9.12.1,2
3.12.3 4.12.8	Use properties of length & measure to justify segment & angle relationships	2.6	<b>E/S</b>	8.12.3,10
3.12.3 4.12.8	Justify statements about congruent segments and angles	2.7	<b>E/S</b>	8.12.3,6,1. 9.12.1,3
4.12.6	Identify linear pairs, vertical, complementary and supplementary angles	1.6	<b>E/S</b>	7.12.11 8.12.8 9.12.1
4.12.6	Prove properties about special pairs of angles	2.8	<b>E/S</b>	8.12.3,5,6,1. 9.12.1,2
4.12.6	Identify relationships between lines	3.1	<b>E/S</b>	6.12.2 7.12.1,17 8.12.8

4.12.6	Identify angles formed by transversals	3.2	<b>E/S</b>	6.12.2 7.12.1,17 8.12.8
4.12.6	Prove and use properties of angle about parallel lines and transversals	3.4	<b>E/S</b>	6.12.2 8.12.8
4.12.6	Prove that two lines are parallel	3.5	<b>E/S</b>	6.12.2 8.12.3,5,6,1. 9.12.1
4.12.8	Bisect angles and segments	1.5	<b>W/L</b>	6.12.2 7.12.1,17
4.12.8	Introduce constructions of 60°, 120°, 90°, 30°, 45° angles	1.9	<b>W/L</b>	7.12.14 8.12.8 9.12.1,3
4.12.8	Introduce constructions: copy and bisect segment and angle		<b>W/L</b>	7.12.14 8.12.8 9.12.1
4.12.9	Recognize and analyze a conditional statement	2.1	<b>E/S</b>	6.12.1 8.12.6,8,10 9.12.1,3
4.12.9	Use conditional statements to write postulates about points, lines and planes	2.2	<b>E/S</b>	6.12.1 8.12.8,10 9.12.1
4.12.9	Introduce two column proofs	2.9	<b>I/S</b>	8.12.3,5,6,10 9.12.1,2
4.12.9	Introduce paragraph and flow-chart proofs	3.3	<b>E/S</b>	6.12.2 8.12.3,5,6,10 9.12.1
4.12.9	Recognize and use definitions and other biconditional statements	2.3	<b>E/S</b>	8.12.3,6,8,10 9.12.3
4.12.9	Use symbolic notation to represent logical statements	2.4	<b>E/S</b>	8.12.3,6,8,10 9.12.3
<b>Quarter Two Skills</b>				
4.12.1	Classify triangles by their sides and angles	4.1	<b>E/S</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8
4.12.1,6	Find angle measures in triangles	4.2	<b>E/S</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8
4.12.1,6	Use properties of isosceles and equilateral triangles	4.8	<b>E/S</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8
4.12.1,6	Recognize and apply properties of parallelograms	6.3	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,6,9	Identify, name, and describe polygons	6.1	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8

4.12.1,6,9	Employ properties of trapezoids and kites	6.8	<b>I/L</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,6,9	Calculate areas and dimensions of parallelograms and triangles	6.9	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,6,9	Prove that a quadrilateral is a parallelogram	6.4	<b>I/L</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,6,9	Use analytic (coordinate) geometry with quadrilaterals	6.5	<b>I/L</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,6,9	Use properties of sides and angles of rhombuses, rectangles and squares	6.6	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,6,9	Use properties of diagonals of rhombuses, rectangles and squares	6.7	<b>I/L</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,7	Use the sum of interior angles and exterior angles of polygons	6.2	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.3,5	Calculate areas and dimensions of trapezoids and kites	6.9	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.5	Write coordinate proofs for triangle congruence	4.9	<b>W/L</b>	6.12.2 7.12.1,17 8.12.8 9.12.1
4.12.5	Use properties of right triangles	4.9	<b>E/S</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8
4.12.5	Use properties of perpendicular bisectors in a triangle (Circumcenter)	5.3	<b>I/L</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8
4.12.5	Use properties of angle bisectors in triangles (Incenter)	5.4	<b>I/L</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8
4.12.5	Use properties of medians in triangles (Centroid)	5.5	<b>I/L</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8
4.12.5	Use properties of altitudes in triangles (Orthocenter)	5.6	<b>I/L</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8
4.12.5	Identify and use properties of the midsegment in a triangle	5.7	<b>I/S</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8
4.12.5	Use triangle measures to determine largest angle or longest side (Triangle Inequality)	5.8	<b>E/S</b>	6.12.2 7.12.1 8.12.8
4.12.5	Use the Hinge Theorem and its converse(Triangle Inequality in 2 triangles)	5.9	<b>E/S</b>	6.12.2 7.12.1,17 9.12.1
4.12.5,6	Use properties of perpendicular bisectors	5.1	<b>E/S</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8

4.12.5,6	Use properties of angle bisectors	5.2	<b>E/S</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8
4.12.6	Identify congruent figures and corresponding parts	4.3	<b>E/S</b>	6.12.2 7.12.1,17 8.12.8 9.12.1,8
4.12.6	Prove that two triangles are congruent SSS, SAS, ASA, AAS	4.4	<b>E/S</b>	6.12.2 7.12.1,17 9.12.1,8
4.12.8	Use congruent triangles to prove that constructions are valid	4.7	<b>W/L</b>	6.12.2 7.12.1,17 8.12.8 9.12.1
4.12.8,9	Construct congruent triangles using SSS, SAS and ASA relationships		<b>I/L</b>	6.12.2 7.12.1,17 8.12.8
4.12.9	Extend proofs determining triangle congruence	4.6	<b>E/L</b>	6.12.2 8.12.3,5,6,10 9.12.1
<b>Quarter Three Skills</b>				
1.12.1,2 4.12.5	Use similarity theorems to prove that triangles are similar		<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
1.12.1,2 4.12.4	Find and simplify the ratios of two numbers	8.1	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
1.12.1,2 4.12.4	Convert between units of measure	8.2	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
1.12.1,2 4.12.4	Identify and use the properties of proportions		<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
1.12.1,2 4.12.4	Use proportions to solve real life problems	8.2	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
1.12.1,2 4.12.5	Identify similar polygons and note relationships of angles and sides		<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
1.12.1,2 4.12.5	Use properties of dilations (Optional)		<b>I/L</b>	6.12.2 7.12.1,14,17 9.12.1,8
1.12.1,2 4.12.5	Identify similar triangles and note relationships of angles and sides		<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
1.12.1,2 4.12.5	Use proportionality to calculate segment lengths		<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,6	Find the magnitude and direction of a vector	9.5	<b>W/L</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.2	Identify the three basic rigid transformations (rotation, reflection, translation)	7.1	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8

4.12.2	Identify glide reflections	7.2	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.2	Introduce vectors	7.3	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.2	Introduce non-rigid transformations (dilations)	7.4	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.5	Identify and use the geometric mean to solve problems		<b>I/L</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.7	Prove and use the Pythagorean theorem and its converse		<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.7,1	Find the side lengths of special right triangles 30-60 & 45-45		<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.7,1	Use trigonometry to solve triangles for side length and angle measure	9.4	<b>I/L</b>	6.12.2 7.12.1,14,17 9.12.1,8
<b>Quarter Four Skills</b>				
2.12.3	Find the volume of a pyramid and a cone	12.6	<b>E/L</b>	7.12.1,14,17 8.12.6,7 9.12.1,8
2.12.3	Find the surface area and volume of sphere	12.7	<b>E/L</b>	7.12.1,14,17 8.12.6,7 9.12.1,8
2.12.3 4.12.9	Use Euler's Theorem (optional)	12.2	<b>W/L</b>	7.12.1,14,17 8.12.6,7 9.12.1,8
2.12.4	Write the equation of a circle	10.7	<b>W/L</b>	6.12.2 7.12.1,14,17 9.12.1,8
3.12.3	Find the area of a circle and the area of a sector	11.6	<b>I/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
3.12.3,5	Find the area of an equilateral triangle	11.2	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
3.12.3,5	Find the area of a regular polygon	11.3	<b>I/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
3.12.3,5	Find the circumference of a circle and the arc length	11.5	<b>I/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
3.12.3,5 2.12.3	Find the surface area of a pyramid and a cone	12.4	<b>E/L</b>	7.12.1,14,17 8.12.6,7 9.12.1,8
3.12.3,5 2.12.3	Find the surface area of a prism and a cylinder	12.3	<b>E/S</b>	7.12.1,14,17 8.12.6,7 9.12.1,8

3.12.3,5 2.12.3	Find the volume of a prism and a cylinder	12.5	<b>E/L</b>	7.12.1,14,17 8.12.6,7 9.12.1,8
3.12.5	Compare area and perimeter of similar polygons	11.4	<b>I/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1	Find the measures of interior and exterior angles of polygons	11.1	<b>I/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,8	Identify segments and lines related to circles	10.1	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,8	Use properties of tangents, arcs and chords	10.2	<b>E/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,8	Use inscribed angles to solve problems	10.3	<b>I/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,8	Use angles formed by tangents and chords to solve geometric problems	10.4	<b>I/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,8	Use angles formed by lines that intersect a circle to solve geometric problems	10.5	<b>I/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.1,8	Find the lengths of segments of chords, tangents and secants.	10.6	<b>I/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.2	Introduce loci	10.9	<b>W/L</b>	6.12.2 7.12.1,14,17 9.12.1,8
4.12.4	Use properties of polyhedra	12.1	<b>E/S</b>	7.12.1,14,17 8.12.6,7 9.12.1,8
4.12.5	Use the equation of a circle to graph a circle	10.8	<b>I/S</b>	6.12.2 7.12.1,14,17 9.12.1,8
5.12.3	Find the geometric probability	11.7	<b>W/L</b>	6.12.2 7.12.1,14,17 9.12.1,8