

Geometry Standards Tracker

Essential Standards are denoted with an (E) and colored gray

Standard	Description	MP1	MP2	MP3	MP4	MP5	MP6
Geometry Foundations							
G.GF.1	Describe the structure of and relationships within an axiomatic system (undefined terms, definitions, axioms and postulates, methods of reasoning, and theorems) and explain differences among supporting evidence, counterexamples, and actual proofs. (E)	x					
G.GF.2	State, use, and examine the validity of the converse, inverse, and contrapositive of conditional (“if – then”) and bi-conditional (“if and only if”) statements.	x					
G.GF.3	Develop geometric proofs, including those involving coordinate geometry, using two-column, paragraph, and flow chart formats.		x				
G.GF.4	Prove, construct, and apply theorems about parallel and perpendicular lines, parallel lines and transversals, vertical angles, and perpendicular bisectors. (E)		x				
G.GF.5	Determine if a pair of lines are parallel, perpendicular, or neither by comparing the slopes in coordinate graphs and equations. (E)		x				
G.GF.6	Use tools to explain and justify the process to construct congruent segments and angles, angle bisectors, perpendicular bisectors, altitudes, medians, parallel and perpendicular lines, and parallel lines and transversals.			x			
G.GF.7	Develop the distance formula using the Pythagorean Theorem. Find the lengths and midpoints of line segments in the two-dimensional coordinate system. (E)			x			
Triangles							
G.T.1	Prove and apply theorems about triangles, including: a. Interior angles of a triangle sum to 180° b. The Isosceles Triangle Theorem and its converse c. The Pythagorean Theorem d. The segment joining midpoints of two sides of a triangle is parallel to the third side and half the length e. A line parallel to one side of a triangle divides the other two proportionally, and its converse f. The Angle Bisector Theorem g. Triangle inequality h. Inequality in one triangle i. Hinge Theorem and its converse (E)				x		
G.T.2	Prove and apply criteria for triangle congruence (ASA, SAS, AAS, SSS, and HL) from the definition of congruence in terms of rigid motions. (E)				x		
G.T.3	Use the definition of similarity in terms of similarity transformations to determine if two given triangles are similar. Explore and develop the meaning of similarity for triangles.					x	
G.T.4	Use congruent and similar triangles to solve real-world and mathematical problems involving sides, perimeters, and areas of triangles. (E)					x	
G.T.5	Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.						x

