Mathematics Curriculum

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Topic D:

Congruence

G-CO.B.7, G-CO.B.8

Focus Standard:	G-CO.B.7	Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.
	G-CO.B.8	Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.
Instructional Days:	6	
Lesson 22:	Congruence Criteria for Triangles—SAS (P)[1]	
Lesson 23:	Base Angles of Isosceles Triangles (E)	
Lesson 24:	Congruence Criteria for Triangles—ASA and SSS (P)	
Lesson 25:	Congruence Criteria for Triangles—AAS and HL (E)	
Lessons 26–27:	Triangle Congruency Proofs (P, P)	

In Topic D, students use the knowledge of rigid motions developed in Topic C to determine and prove triangle congruence. At this point, students have a well-developed definition of congruence supported by empirical investigation. They can now develop an understanding of traditional congruence criteria for triangles, such as SAS, ASA, and SSS, and devise formal methods of proof by direct use of transformations. As students prove congruence using the three criteria, they also investigate why AAS also leads toward a viable proof of congruence and why SSA cannot be used to establish congruence. Examining and establishing these methods of proving congruency leads to analysis and application of specific properties of lines, angles, and polygons in Topic E.

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[1] Lesson Structure Key: **P**-Problem Set Lesson, **M**-Modeling Cycle Lesson, **E**-Exploration Lesson, **S**-Socratic Lesson