

Table of Contents¹

Congruence, Proof, and Constructions

Module Overview	3
Topic A: Basic Constructions (G-CO.A.1, G-CO.D.12, G-CO.D.13)	7
Lessons 1–2: Construct an Equilateral Triangle	8
Lesson 3: Copy and Bisect an Angle	21
Lesson 4: Construct a Perpendicular Bisector	30
Lesson 5: Points of Concurrencies	37
Topic B: Unknown Angles (G-CO.C.9)	42
Lesson 6: Solve for Unknown Angles—Angles and Lines at a Point	43
Lesson 7: Solve for Unknown Angles—Transversals	55
Lesson 8: Solve for Unknown Angles—Angles in a Triangle	63
Lesson 9: Unknown Angle Proofs—Writing Proofs	69
Lesson 10: Unknown Angle Proofs—Proofs with Constructions	76
Lesson 11: Unknown Angle Proofs—Proofs of Known Facts	83
Topic C: Transformations/Rigid Motions (G-CO.A.2, G-CO.A.3, G-CO.A.4, G-CO.A.5, G-CO.B.6, G-CO.B.7, G-CO.D.12)	91
Lesson 12: Transformations—The Next Level	93
Lesson 13: Rotations	102
Lesson 14: Reflections	111
Lesson 15: Rotations, Reflections, and Symmetry	118
Lesson 16: Translations	125
Lesson 17: Characterize Points on a Perpendicular Bisector	133
Lesson 18: Looking More Carefully at Parallel Lines	139
Lesson 19: Construct and Apply a Sequence of Rigid Motions	149
Lesson 20: Applications of Congruence in Terms of Rigid Motions	153

¹ Each lesson is ONE day, and ONE day is considered a 45-minute period.

Lesson 21: Correspondence and Transformations	159
Mid-Module Assessment and Rubric	164
<i>Topics A through C (assessment 1 day, return 2 days, remediation or further applications 3 days)</i>	
Topic D: Congruence (G-CO.B.7 , G-CO.B.8).....	178
Lesson 22: Congruence Criteria for Triangles—SAS.....	179
Lesson 23: Base Angles of Isosceles Triangles	189
Lesson 24: Congruence Criteria for Triangles—ASA and SSS.....	197
Lesson 25: Congruence Criteria for Triangles—AAS and HL	204
Lessons 26–27: Triangle Congruency Proofs	211
Topic E: Proving Properties of Geometric Figures (G-CO.C.9 , G-CO.C.10 , G-CO.C.11).....	221
Lesson 28: Properties of Parallelograms.....	222
Lessons 29–30: Special Lines in Triangles	231
Topic F: Advanced Constructions (G-CO.D.13)	241
Lesson 31: Construct a Square and a Nine-Point Circle	242
Lesson 32: Construct a Nine-Point Circle	247
Topic G: Axiomatic Systems (G-CO.A.1 , G-CO.A.2 , G-CO.A.3 , G-CO.A.4 , G-CO.A.5 , G-CO.B.6 , G-CO.B.7 , G-CO.B.8 , G-CO.C.9 , G-CO.C.10 , G-CO.C.11 , G-CO.C.12 , G-CO.C.13).....	251
Lessons 33–34: Review of the Assumptions	253
End-of-Module Assessment and Rubric	264
<i>Topics A through G (assessment 1 day, return 2 days, remediation or further applications 3 days)</i>	