

Table of Contents¹

GEOMETRY • MODULE 5

Circles With and Without Coordinates

Module Overview	3
Topic A: Central and Inscribed Angles (G-C.A.2, G-C.A.3)	8
Lesson 1: Thales' Theorem	10
Lesson 2: Circles, Chords, Diameters, and Their Relationships	21
Lesson 3: Rectangles Inscribed in Circles	34
Lesson 4: Experiments with Inscribed Angles	42
Lesson 5: Inscribed Angle Theorem and Its Applications	52
Lesson 6: Unknown Angle Problems with Inscribed Angles in Circles	65
Topic B: Arcs and Sectors (G-C.A.1, G-C.A.2, G-C.B.5)	77
Lesson 7: The Angle Measure of an Arc	79
Lesson 8: Arcs and Chords	92
Lesson 9: Arc Length and Areas of Sectors	103
Lesson 10: Unknown Length and Area Problems	116
Mid-Module Assessment and Rubric	127
<i>Topics A through B (assessment 1 day, return, remediation, or further applications 1 day)</i>	
Topic C: Secants and Tangents (G-C.A.2, G-C.A.3)	143
Lesson 11: Properties of Tangents	144
Lesson 12: Tangent Segments	155
Lesson 13: The Inscribed Angle Alternate—A Tangent Angle	168
Lesson 14: Secant Lines; Secant Lines That Meet Inside a Circle	178
Lesson 15: Secant Angle Theorem, Exterior Case	190
Lesson 16: Similar Triangles in Circle-Secant (or Circle-Secant-Tangent) Diagrams	201
Topic D: Equations for Circles and Their Tangents (G-GPE.A.1, G-GPE.B.4)	212
Lesson 17: Writing the Equation for a Circle	213
Lesson 18: Recognizing Equations of Circles	225

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

Lesson 19: Equations for Tangent Lines to Circles	236
Topic E: Cyclic Quadrilaterals and Ptolemy's Theorem (G-C.A.3)	246
Lesson 20: Cyclic Quadrilaterals	247
Lesson 21: Ptolemy's Theorem	261
End-of-Module Assessment and Rubric	270
<i>Topics C through E (assessment 1 day, return, remediation or further applications 1 day)</i>	