Topic C:

The Pythagorean Theorem

8.G.B.6, 8.G.B.7

Focus Standard:	8.G.B.6	Explain a proof of the Pythagorean Theorem and its converse.
	8.G.B.7	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
Instructional Days:	2	
Lesson 13:	Proof of the Pythagorean Theorem (S)[1]	
Lesson 14:	Converse of the Pythagorean Theorem (P)	

It is recommended that students have some experience with the lessons in Topic D from Module 2 before beginning these lessons. In Lesson 13 of Topic C, students are presented with a general proof that uses the Angle-Angle criterion. In Lesson 14, students are presented with a proof of the converse of the Pythagorean Theorem. Also in Lesson 14, students apply their knowledge of the Pythagorean Theorem (i.e., given a right triangle with sides a,b, c, where c is the hypotenuse, then $a^2 + b^2 = c^2$) to determine unknown side lengths in right triangles. Students also use the converse of the theorem (i.e., given a triangle with lengths a, b, c, so that $a^2 + b^2 = c^2$, then the triangle is a right triangle with hypotenuse c) to determine if a given triangle is in fact a right triangle.

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