



Optional Topic E:

Pythagorean Theorem

8.G.B.7, 8.EE.C.8

Focus Standards:	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.
	8.EE.C.8	Analyze and solve pairs of simultaneous linear equations. - Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. - Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. <i>For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.</i> - Solve real-world and mathematical problems leading to two linear equations in two variables. <i>For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.</i>

Instructional Days: 1

Lesson 31: System of Equations Leading to Pythagorean Triples (S)¹

Lesson 31 shows students how to apply what they learned about systems of linear equations to find a Pythagorean triple (**8.G.B.7, 8.EE.C.8b**). The Babylonian method of generating Pythagorean triples, described in Lesson 31, uses a system of linear equations.

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