



(Optional) Topic D:

The Pythagorean Theorem

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

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| 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 15: | Informal Proof of the Pythagorean Theorem (S) ¹ |
| | Lesson 16: | Applications of the Pythagorean Theorem (P) |

In Topic D, students are guided through the square within a square proof of the Pythagorean theorem, which requires students to know that congruent figures also have congruent areas. Once proved, students will practice using the Pythagorean theorem and its converse in Lesson 16 to find unknown side lengths in right triangles. Students apply their knowledge of the Pythagorean theorem to real-world problems that involve two-and three-dimensional figures.

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