

# MP4b-Understand and Apply the Pythagorean Theorem

Content Area: **Mathematics**  
Course(s): **Math 7 PRE-ALGEBRA**  
Time Period: **Marking Period 4**  
Length: **Wk 5-7 Envisions Mathematics Topic 12**  
Status: **Published**

## Essential Question

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- How can you use the Pythagorean Theorem to solve problems?

## Big Ideas

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- Understand and apply the Pythagorean Theorem.

## Technology Integration

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8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose.

8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values.

8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users.

Activity: Taco Truck Activity-Desmos.com. In this activity, students use the Pythagorean theorem as a tool to solve problems involving diagonal distances. In a quick prelude, students reason with the Pythagorean theorem and with rates in a situation that they may encounter in their daily lives: taking a shortcut to save time. Students then determine the best path to a taco truck from a spot on the beach. The activity culminates in a class-wide race.

## Enduring Understandings

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Geometry

- 8.G.6[M] Explain a proof of the Pythagorean Theorem and its converse.
- 8.G.7[M] Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
- 8.G.8[M] Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

### **Mathematical Practices**

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1. Make sense of problems and persevere in solving them. and page 391
2. Reason abstractly and quantitatively. Lesson 3, and page 391
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics. Lesson 2, 4, and page 391
7. Look for and make use of structure. Lesson 1, 2, 3, 4, and page 391
8. Look for and express regularity in repeated reasoning. Lesson 1, 2, 3, 4, and page 391