## Unit 4 Lesson 8: Sine and Cosine in the Same Right Triangle

### 1 Which One Doesn’t Belong: Four Triangles (Warm up)

#### Student Task Statement

Which one doesn’t belong?

A



B



C



D



### 2 Twin Triangles

#### Student Task Statement

Your teacher will assign you to either Column A or Column B. Find the value of the variable for the problems in your column.

**Column A:**

**Column B:**

A1



B1



A2



B2



A3



B3



Compare your solutions with your group's solutions. Why did you get the same answers to different problems?

### 3 Explain the Co-nnection

#### Student Task Statement

1. Draw a diagram that will help you explain why $sin\left(θ\right)=cos\left(90−θ\right)$.
2. Explain why $sin\left(θ\right)=cos\left(90−θ\right)$.

Discuss your thinking with your group. If you disagree, work to reach an agreement.

Create a visual display that includes:

* A clearly-labeled diagram.
* An explanation using precise language.

#### Images for Activity Synthesis









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