Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_

**Geometry Argumentation – Special Right Triangles**

Marianna and Jade created their own special right triangles, Δ ABC and Δ ABD. They drew the following diagram. Marianna and Jade both want the length of $ \overbar{AC}$ to be $5\sqrt{2}.$ However, Marianna and Jade disagree on the length of$ \overbar{AD}$. Marianna thinks that the length of $ \overbar{AD}$ will be less than 9$.$ Jade disagrees, and thinks that the length of $ \overbar{AD}$ will be greater than 9. Which student is correct, and what is the correct answer? Construct a mathematical argument to convince a classmate that your answer is correct.

