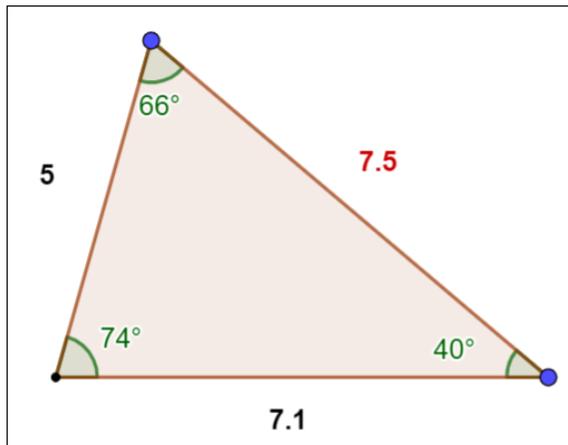


WARMUP:

In the Pythagorean Theorem, which letter symbolizes the longest side of the triangle?



PROCEDURE:

Open the file *Converse Pythagorean Theorem* or use the *Construction Notes* to create the figure.

1. Classify the triangle as an acute, obtuse, or right triangle. Enter into the chart below.
2. Fill in the lengths of the sides. *Be sure the longest side length is in column _____.*
3. Calculate $A^2 + B^2$ and C^2 and enter these. Does this triangle meet the requirements of the Pythagorean Theorem?
4. Use the **Move** cursor to drag one vertex of the triangle to change its shape. Fill in the chart for the new triangle. Be sure to create some triangles of each type (acute, obtuse and right) and complete the chart.

COLLECT DATA:

TYPE of TRIANGLE	A	B	C	$A^2 + B^2$	C^2

MAKE CONJECTURES:

8. Do the right triangles confirm the Pythagorean Theorem? (Does $a^2 + b^2 = c^2$?)

9. What do you notice about the triangles where $c^2 < a^2 + b^2$?

10. What do you notice about the triangles where $c^2 > a^2 + b^2$?

APPLY THE MATH:

11. Predict which type of triangle each will be (acute, right, obtuse).

A. 6, 8, 10 _____

B. 6, 8, 11 _____

C. 9, 10, 11 _____

D. 9, 12, 14 _____

E. 9, 12, 15 _____

F. 4, 7, 10 _____

12. Create a set of sides that would make an acute triangle. _____

13. Create a set of sides that would make an obtuse triangle. _____

14. What happens if you try to make a triangle with sides 4, 7, 11? Or 4, 7, 12? Explain.