Name: _____ Period: ____ Date: _____

Pythagorean Theorem Project

In math class, you have learned about the Pythagorean Theorem ($a^2 + b^2 = c^2$). You have also seen examples of how the Pythagorean Theorem is used in 'real life.' For this task you will create your own "real life" Pythagorean Theorem word problem and model using the following steps:

1. **Write a word problem** that involves using the Pythagorean Theorem to solve the problem.

- The word problem must be typed.
- The word problem must show how the Pythagorean Theorem is used in the real world.
- The word problem must use appropriate mathematical vocabulary.
- The word problem must include appropriate units of measurement. (For example, a T.V. would be measured in inches, not miles).

2. **Solve the word problem you created**, showing all appropriate steps (typing not required)

3. **Create a 3D model that represents your word problem**. Examples: Diorama, Poster with 3D art materials glued to it (string, cotton balls, etc.), miniature model, etc. BE CREATIVE!!!!!

- The legs and hypotenuse of your "real life" right triangle must be clearly identified and labeled.
- You must write the measurements of the legs and hypotenuse. If any other measurements are required, clearly label those measurements on your model.

4. **Write a reflection** about your results
You must write a reflection about your project once you have completed it. You should explain how you came up with your word problem idea. You should discuss your results and explain whether or not they make sense.

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Rubric

	6-7 points each	3-4 points each	1-2 points each	0 points each
Criterion A- Knowledge and Understanding	Word problem involves using the Pythagorean Theorem in a real world setting. It is a problem that is capable of being solved. Correct mathematical vocabulary and Appropriate units of measurement are used.	Word problem involves using the Pythagorean Theorem in a real world setting. It is a problem that is capable of being solved. Minor problems with mathematical vocabulary/measurements.	Word problem is not able to be solved or does not involve the Pythagorean Theorem, or does not make sense.	No word problem
Criterion B - Investigating Patterns	Word problem is correctly solved showing all work and all steps.	Word problem solved with minor calculation errors.	Word problem solved with major calculation errors/ steps missing.	Word problem is not solved.
Criterion C - Communication in Mathematics	Model is 3D. Model correctly and clearly represents the word problem. The legs, hypotenuse and all required measurements are clearly labeled.	Model is 3D. Model correctly represents the word problem, but may not be as clear. Minor problems with measurements or labeling of the legs and hypotenuse.	Model is not 3D or Model does not represent the word problem or measurements and/or labeling of the legs and hypotenuse are incomplete.	No model.
Criterion D- Reflection in Mathematics	Your reflection provides a well-reasoned explanation of your results and discusses whether or not they make sense.	Your reflection provides an explanation of your results.	You attempt to explain your results.	No reflection