Pythagorean Theorem: Everywhere You Look!

Time for a fun project, class! We have recently learned about right-triangles and how we can use the Pythagorean Theorem to find the length of the legs and hypotenuse. For this project, I want you to find 3 examples of a right-triangle and take a picture of each (remember, right-triangles are in rectangles and squares, etc.). You will then measure 2 sides of the object you took a picture of. Use this information and Pythagorean Theorem to find the missing 3rd side (You can solve for either the hypotenuse or a leg, it does not just have to be the hypotenuse). You will then upload your document to Word, PowerPoint, or any other program where editing can take place. Label your picture and solve the right-triangle while showing all of your work along the way. Please remember to keep all pictures school appropriate. I have included an example of what I am expecting below. Have fun with this project and be creative!

- Find 3 examples of right-triangles and take picture (remember rectangles, squares, etc.)
- Measure 2 of 3 sides (does not matter which sides) and record data
- Upload photo to Word, PowerPoint, or any other program that allows editing
- Label your picture with the data from the 2 sides you measured **(if the object you are using is too big to measure, assign reasonable values for 2 sides.)**
- Use the Pythagorean Theorem to solve for the missing 3rd side of your triangle
- BE SURE TO SHOW ALL OF YOUR STEPS ALONG THE WAY!
- **Round your answers to the nearest tenth of a foot, inch, mile, etc.**

Example

Side lengths: 23 feet and 2 feet (represented by *a* and *b*)
Hypotenuse length : ? (represented by *c*)

Work: $a^2 + b^2 = c^2$
$23^2 + 2^2 = c^2$
$529 + 4 = c^2$
$533 = c^2$
$\sqrt{533} = \sqrt{c^2}$
$c = 23.0867$
c = 23.09 feet