

MeTEOR Performance Task

Eighth Grade

Mathematics
Pythagorean Theorem

Performance Task: Pythagorean Theorem

Task/Question 1:

- A.** What is the Pythagorean Theorem?

- B.** What type of triangles is the Pythagorean Theorem used for?

- C.** What is the ***hypotenuse***?

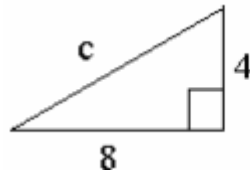
Task/Question 2:

Find the Length of the hypotenuse for each of the following: (Show your work)

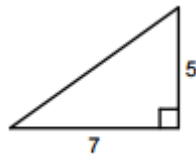
A. $4^2 + 5^2 = c^2$

B. $7^2 + 2^2 = c^2$

C.



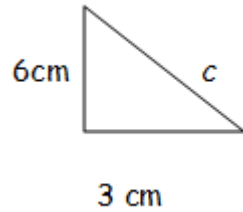
D.



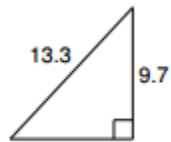
Task/Question 3:

Determine the length of the missing side for each right triangle below: (Show your work)

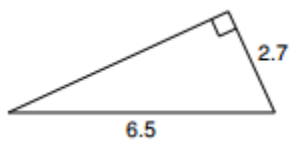
A.



B.



C.



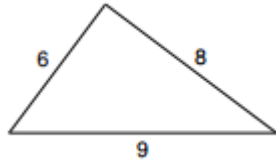
D.



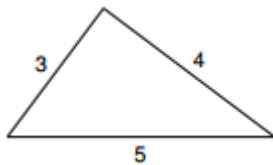
Task/Question 4:

Determine if each of the following creates a right triangle. Justify your answers using mathematical language:

A.



B.

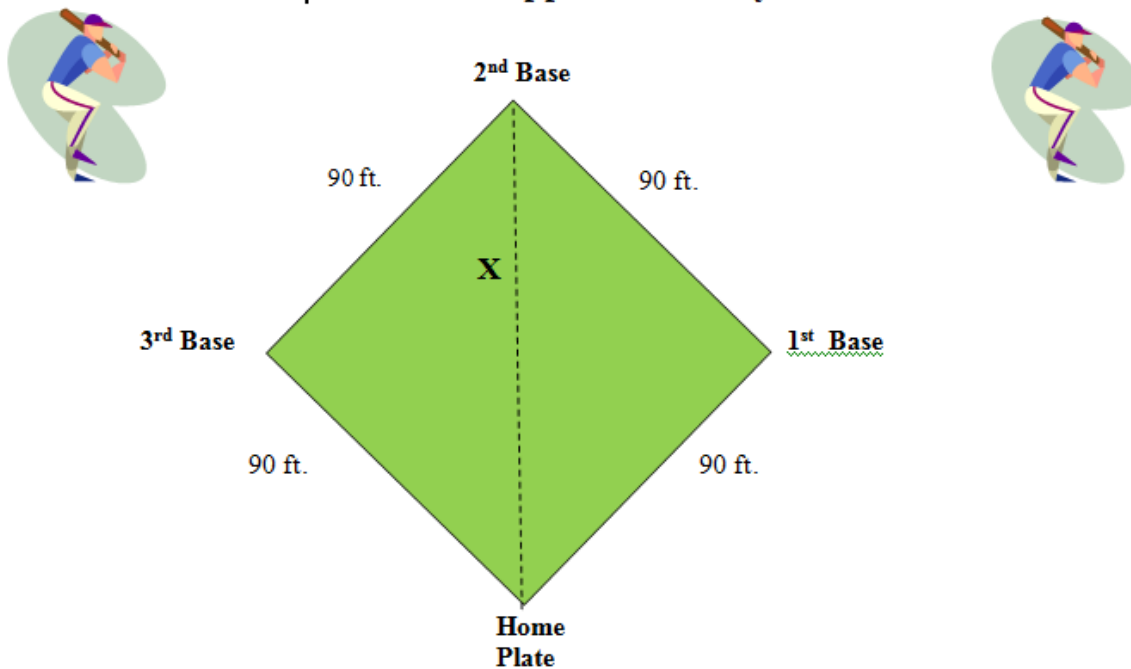


Task/Question 5:

- A.** Jason created a flower bed that is rectangular in shape and measures 4 feet by 5 feet. Draw his flower bed. How can he determine the length of the diagonal? Explain and justify using geometric properties of all shapes involved.
- B.** A rectangular vacant lot measures 60 yards by 70 yards. John says the shortest way across the lot is straight across. Lucy claims that if you cross the lot diagonally it is actually shorter. Who is correct? Defend your answer using academic vocabulary, calculations and a diagram.

Task/Question 6:

Real World Application: Play Ball!



Use the drawing above to answer the following questions:

- A.** If the 2nd baseman must throw a ball from 2nd base to home, what is the length of that throw?

- B.** Explain how you solved Part A using Pythagorean Theorem:

- C. If the 3rd baseman must throw the ball to 1st base, how far would he/she have to throw the ball? Defend how your process for solving this task is **most efficient**. (As you defend your answer, identify the triangle, legs and hypotenuse of the throw.)



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