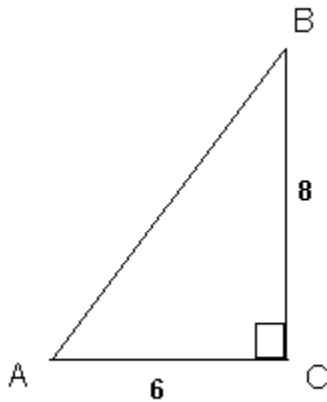


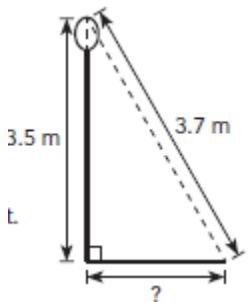
Practice Math Test

1. Alex leaves his house to meet his friend at a café. He walks 161 meters due west and then 240 meters due south to reach the café. How far is Alex's house from the café? (DRAW AN ILLUSTRATION)
2. Find the value of the missing side.



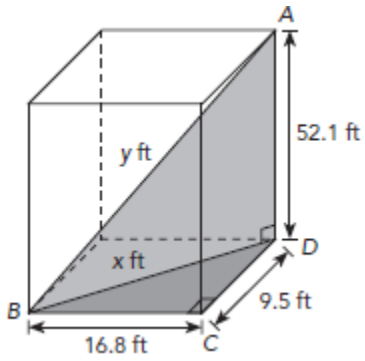
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3. A lamp post has a height of 3.5 meters. The distance from the top of the lamp post to the tip of the shadow formed by the lamp post is 3.7 meters. What is the length of the shadow?



4. Points $A(-4, 7)$ and $B(-1, 1)$ are plotted on a coordinate plane. Find the distance between points A and B . Find both the exact value and the approximate value to the nearest tenth.
5. Explain how the Distance Formula is derived from the Pythagorean Theorem. Please use academic terms (vocabulary) to explain the process.

6. The diagram shows a large empty carton.



Explain using academic terms how to find the length of the central diagonal of the box. Round your answer to the nearest tenth. Most of the credit will be based on your explanation and not the solution to this problem (the central diagonal is the line with the y variable. This line is the equivalent to the string in the box from our class activity)