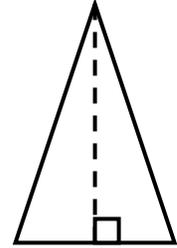


**7<sup>th</sup> Math****Pythagorean Theorem Word Problems**

On a separate sheet of paper, do the following: make a diagram, apply the Pythagorean Theorem, solve using steps, and label answers. Use your table of roots.

1. The bottom of a ladder must be placed 3 feet from a wall. The ladder is 12 feet long. How far above the ground does the ladder touch the wall?
2. A soccer field is a rectangle 90 meters wide and 120 meters long. The coach asks players to run from one corner to the corner diagonally across. What is this distance?
3. How far from the base of the house do you need to place a 15-foot ladder so that it exactly reaches the top of a 12-foot tall wall?
4. What is the length of the diagonal of a 10 cm by 15 cm rectangle?
5. The diagonal of a rectangle is 25 in. The width is 15 inches. What is the length?
6. Two sides of a right triangle are 8 and 12.
  - a. Find the missing side if 8 and 12 are legs.
  - b. Find the missing side if 8 and 12 are a leg and hypotenuse.
7. The area of a square is 81 square centimeters. Find the length of a side. Find the length of the diagonal.
8. An isosceles triangle has congruent sides of 20 cm. The base is 10 cm. Find the height of the triangle.
9. A baseball diamond is a square that is 90 feet on each side. What is the distance from home to second base?
10. Jill's front door is 42" wide and 84" tall. She purchased a circular table that is 96 inches in diameter. Will the table fit through the front door? Explain using approximations.

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