Pythagorean Theorem word problems ws #1 Name _____

Solve each of the following. Please draw a picture and use the Pythagorean Theorem to solve. ***Be sure to label all answers and leave answers in exact simplified form.***

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 the field. How far do the players run?

3. How far from the base of the house do you need to place a 15' ladder so that it exactly reaches the top of a 12' wall?

4. What is the length of the diagonal of a 10 cm by 15 cm rectangle?

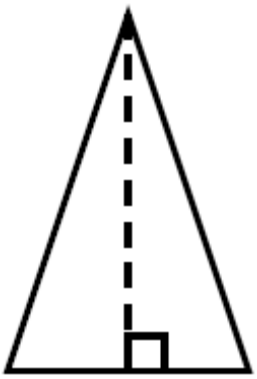
5. The diagonal of a rectangle is 25 in. The width is 15 in. What is the area of the rectangle?

6. Two sides of a right triangle are 8” and 12”.
   A. Find the the area of the triangle if 8 and 12 are legs.

   B. Find the area of the triangle if 8 and 12 are a leg and hypotenuse.

7. The area of a square is 81 cm^2. Find the perimeter of the square.

8. An isosceles triangle has congruent sides of 20 cm. The base is 10 cm. What is the area of the triangle?



9. A baseball diamond is a square that is 90’ on each side. If a player throws the ball from 2nd base to home, how far will the ball travel?

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?

ANSWERS

1. $3\sqrt{15}$ feet

2. 150 m

3. 9’

4. $5\sqrt{13}$ cm

5. 300 in^2

6. A. 48 in^2, B. $16\sqrt{5}$ in^2

7. 36 cm

8. $25\sqrt{15}$ cm^2

9. $90\sqrt{2}$ ‘

10. The table will NOT fit