Math 2   Name _____

Unit 5 Day 3 CW

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.*
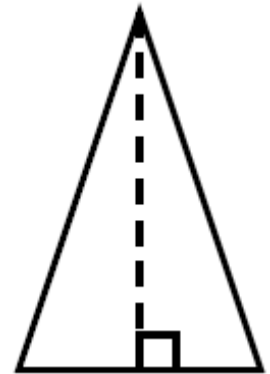
1. The bottom of a ladder must be placed 3 feet from a wall. The ladder is 12 feet long. How far above the ground does the ladder touch the wall?

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 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?
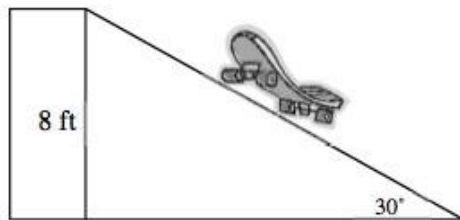
10. Jill's front door is 42" wide and 84" tall. She purchased a circular table that is 96 inches in diameter. Will the table fit through the front door?

Solve each of the following. Please draw a picture and use the Special Right Triangles to solve. *Be sure to label all answers and leave answers in exact radical form.*
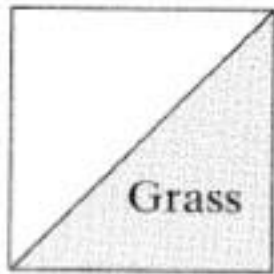
11. Ryan quit bowling and took up sailing. His sail for his sailboat is a 45---45---90 Right Triangle. The base of the sail is 6 ft. long. What would the height of the sail be? What is the length of the hypotenuse?

12. Joe saw a "Yield" sign and "borrowed it." He wanted to hang it up in his room because it looked cool and it was in the shape of an Equilateral Triangle. The length of one side is 34 inches. What is the height of the sign?

13. Jeremy is going to show off his skateboarding ability to his Geometry class. He has a skate board ramp must be set up to rise from the ground at 30°. If the height from the ground to the platform is 8 feet, how far is the ramp to the platform? How long is the ramp up to the top of the platform?

8 ft

30°

14. Tristan has a square back yard with an area of 225ft sq. He started to plant grass seed but only did half his yard. (He wanted to play GTA5 Heists instead) What is the perimeter of the Grass section of the backyard?

Grass

15. Lorena and Karla are creating an art project in the shape of a right triangle. They have a 92 cm---long piece of wood, which is to be used for the hypotenuse. The two legs of the triangular support are of equal length. Approximately how many more centimeters of wood do they need to complete the support?

16. Mr. Rasczyk has a tree farm. Half the farm is trees that he uses to make pencils, the other half are maple trees that he uses to make "Raz's Sweet Love Maple Syrup". The farm is a Square divided into 2 sections along a 400 foot diagonal. What is the area of the Maple Tree Farm section?