

**Name:** \_\_\_\_\_

**Period:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## **Worksheet #1 - Word Problems**

### **Pythagorean Theorem**

**Directions:** Solve by drawing a picture, identifying a, b, and c, and applying the Pythagorean Theorem. Do not forget to give your answer with units and show ALL your work to receive full credit.

1. Two sides of a right triangle are 8 inches and 12 inches.
  - a. Find the missing sides if these are the lengths of the legs.
  - b. Find the missing sides if these are the lengths of a leg and the hypotenuse.
2. The base of the ladder is placed 6 feet from the wall. If the ladder rests 8 feet up on the wall, how long is the ladder?
3. The bottom of a ladder must be placed 3 feet from the wall. The ladder is 12 feet long. How far above the ground, does the ladder touch the wall?

- 4. John leaves school to go home. He walks 6 blocks North and then 8 blocks west. How far is John from the school?**
  
- 5. Scott wants to swim across a river that is 400 meters wide. He begins swimming perpendicular to the shore; he started from but ends up 100 meters down river from where he started because of the current. How far did he actually swim from his starting point?**
  
- 6. A ramp is placed from a ditch to a main road 2 feet above the ditch. If the length of the ramp is 12 feet, how far away is the bottom of the ramp from the road?**
  
- 7. A 13 feet ladder is placed 5 feet away from a wall. The distance from the ground straight up to the top of the wall is 13 feet. Will the ladder reach the top of the wall?**
  
- 8. What is the length of the diagonal of a 10 cm by 15 cm rectangle?**

- 9. The diagonal of a rectangle is 25 inches. The width is 15 inches. What is the missing length?**
- 10. A soccer field is a rectangle 90 meters wide and 120 meters long. The coach asks players to run from one corner to the other corner diagonally across. What is this distance?**
- 11. A baseball diamond is a square with sides of 90 feet. What is the shortest distance, to the nearest tenth of a foot, between first base and third base?**
- 12. The area of a square is 81 square centimeters. First, find the length of a side. Then, find the length of the diagonal.**
- 13. In a computer catalog, a computer monitor is listed as being 19 inches. This distance is the diagonal distance across the screen. If the screen measures 10 inches in height, what is the actual width of the screen to the nearest inch?**

14. Donna's TV screen is 20 inches long. If the diagonal measures 25 inches, how long is the width of Donna's TV?

ANSWER SHEET

#	ANSWER	#	ANSWER
1		2	
3		4	
5		6	
7		8	
9		10	
11		12	
13		14	