**Analytic Geometry– Special Right Triangles** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Solve each problem. Draw your own pictures!*

1) If the side opposite the  angle in a  is  centimeters, then what is the length of the side opposite the  angle?

2) If the side opposite the  angle in a  is  meters, then what is the length of the side opposite the  angle?

3) The **diagonal** of a square is 15 inches. Find the **area** of this square.

4) The **diagonal** of a square is 12 feet. Find the **area** of this square.

5) The **altitude** of an **equilateral triangle** is 18 meters. Find the **perimeter** of the triangle.

6) The **perimeter** of an **equilateral triangle** is 27 centimeters. Find the **altitude** of the triangle.

7) The **perimeter** of a **square** is 32 feet. Find the length of one of the **diagonals**.

8) The **perimeter** of a **square** is 100 meters. Find the length of one of the **diagonals**.

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9) To the nearest hundredth of a foot, what is the **perimeter** of a  triangle with a hypotenuse of 2 feet?

10) To the nearest hundredth of a foot, what is the **perimeter** of a  triangle with a long leg of 21 meters?

11) A baseball “diamond” is actually a **square**. Each side of the diamond measures 90 feet in length. If a player is trying to slide into home base and the ball is at second base, how far does the second baseman have to throw the ball to the catcher at home base?

12) The **diagonal** of a **rectangle** splits the rectangle into two  triangles. If the diagonal is 14 inches, find the **perimeter** of the rectangle.

13) The **diagonal** of a **rectangle** splits the rectangle into two  triangles. If the diagonal is 10 centimeters, find the **area** of the rectangle.