**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_ Geo: Trig Word Problems**

**You MUST draw a picture for each scenario below and show ALL work!**

1. You create a 45-45-90 right triangle that includes the distance across a lake as the hypotenuse. Each leg of the triangle measures 800 feet. What is the distance across the lake?
2. You are standing 50 m away from the bottom of a tall tree. The angle of elevation (the angle between the ground and the top of the tree) is 45 degrees. How tall is the tree?
3. A plane is descending in the area. You are standing 300 ft from the spot directly under the plane. The angle of elevation (the angle between the ground and the plane) is 30 degrees. How much distance does the plane have left to travel?
4. Calculate the height of a building, knowing that from a point on the ground, 150 meters away, the top of the building can be seen at an angle of 30º.
5. Three towns Spring, Leaps, and Bounds are connected by roads which form a right triangle. The town of Leaps is the location of the right angle. The distance from Spring to Bounds is 9 km and from Leaps to Bounds is 6 km. How far is it from Spring to Leaps?