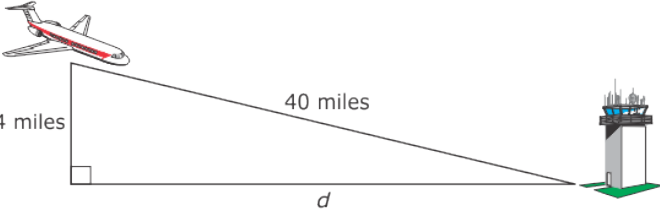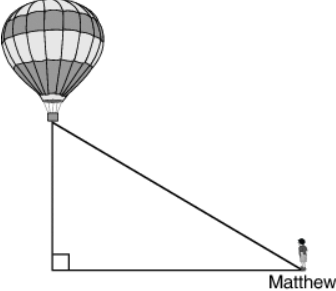Pythagorean Theorem Word Problems WKS

Solve each of the following. **PLEASE DRAW A PICTURE FOR EACH QUESTION.**

Problem	Picture
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. 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?	
3. One end of a pole is placed 5 feet (ft) from a wall, and the other end touches the wall 12 ft from the ground. How long is the pole?	
4. In the picture below, an airplane is 40 miles (air distance) from the airport and is at an elevation of 4 miles. What is the *approximate* ground distance (d) the airplane is from the airport?	4 miles 40 miles d
5. A boat starts in Riverton and sails 5 miles North. Then, the boat sails East another 3 miles, forming a right angle. What is the *approximate* shortest distance back to Riverton?	
6. Martha is in a hot air balloon that has risen straight up from the launch point. Matthew is standing on the ground, 16 meters away from the launch point. If Martha and Matthew are 20 meters apart, how high has the balloon risen?	Matthew

7. Gina lives 2,640 feet directly north of the school and Carla lives 1,760 feet directly west of the school. There is a trail between the two houses, as shown on the diagram. What is the length of the trail?	
8. Julio lives 12 miles south of Charlotte. Juan lives 5 miles east of Charlotte. How far apart do they live from each other if you were to travel directly?	