

Name _____

Right Triangle Word Problems

1. Maria wants to hang a painting on her wall. The top of the painting should be 5 feet above the ground, and she wants the wire to make a 30-degree angle with the wall. How long should the wire be?
2. A ship is approaching a lighthouse. At a certain point, the ship is 500 meters away from the lighthouse and the angle of elevation to the top of the lighthouse is 45 degrees. How tall is the lighthouse?
3. A kite enthusiast wants to fly a kite. The kite string makes a 60-degree angle with the ground, and the string is 100 feet long. How high above the ground is the kite?
4. Tim is building a wheelchair ramp. The ramp must have a length of 15 feet and a rise of 3 feet. What angle does the ramp make with the ground?
5. A ladder leans against a wall. The bottom of the ladder is 12 feet away from the base of the wall, and the ladder makes a 65-degree angle with the ground. How long is the ladder?
6. A tree casts a shadow that is 30 feet long. If the angle of elevation from the tip of the shadow to the top of the tree is 50 degrees, how tall is the tree?
7. Sarah is flying a kite on the beach. The kite string makes a 70-degree angle with the ground, and the string is 200 feet long. How far away horizontally is the kite from Sarah?
8. A flagpole casts a shadow that is 25 feet long. If the angle of elevation from the tip of the shadow to the top of the flagpole is 60 degrees, how tall is the flagpole?
9. Jack is painting the roof of his house. The roof makes a 30-degree angle with the horizontal and is 20 feet above the ground. How far up the roof is Jack?
10. A hot air balloon is ascending. At a certain point, the balloon is 100 meters above the ground, and the angle of elevation from a person on the ground to the balloon is 60 degrees. How far away horizontally is the balloon from the person?

