

Name _____

Right Triangle Word Problems



1. Emily is on a boat and spots a lighthouse. She measures the angle of elevation to the top of the lighthouse as 45 degrees. If she is 500 meters away from the lighthouse, how tall is it?
2. A ladder is leaning against a building. The ladder's base is 10 feet from the building, and it makes a 60-degree angle with the ground. How tall is the building?
3. A kite enthusiast flies a kite with a string 100 meters long. If the string makes a 30-degree angle with the ground, how high is the kite above the ground?
4. Mark is painting a triangular section of his wall. The base of the triangle is 8 feet long, and it rises to a height of 6 feet. What is the angle formed by the wall and the triangular section?
5. A tree casts a shadow 24 feet long. If the angle of elevation from the tip of the shadow to the top of the tree is 60 degrees, how tall is the tree?
6. Alice wants to construct a slide for her backyard. The slide needs to have a height of 7 feet and a length of 10 feet. What angle does the slide make with the ground?
7. A plane is flying at an altitude of 20,000 feet. From the plane, the angle of depression to the ground directly below is 10 degrees. How far is the plane from that point on the ground?
8. Jack is setting up a tent. The tent's center pole makes a 70-degree angle with the ground and is 8 feet tall. How long are the guy lines securing the tent to the ground?
9. A bridge has an incline of 6 degrees. If it rises 15 feet vertically, how long is the bridge?
10. Sarah is observing a mountain. She measures the angle of elevation to the peak as 50 degrees. If she is 1 mile away from the base of the mountain, how tall is it?