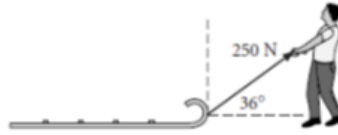


Trigonometry Word Problems

For each question you must **draw and label a triangle** that represents the situation. Round all answers to the nearest hundredth. Please complete these on a paper to turn in.

1. A ladder 7 meters long stands on level ground and makes a 73° angle with the ground as it rests against a wall.
- How far from the wall is the base of the ladder?
 - How far up the wall does it go?

2. Ben is pulling on a toboggan rope with a force of 250 newtons. The rope makes a 36° angle with the ground. What force is actually working to move the toboggan to the right?



3. To site the top of a building 1000 feet away, you look up at an angle of elevation of 24° from the horizontal. What is the height of the building?

4. If a boat going forward in still water suddenly encounters a crosscurrent of 4 miles per hour, causing the boat veer off course by 34° , how fast was the forward speed of the boat?

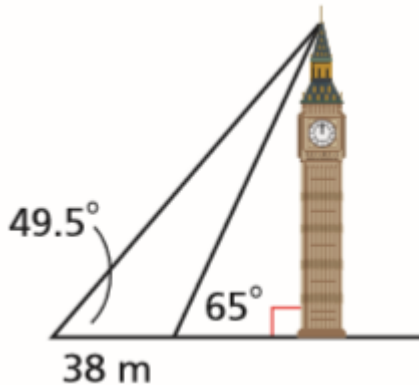
5. A guy wire is anchored 12 feet from the base of a pole. The wire makes a 58° angle with the ground. How long is the wire?

6. Mayuko is sitting 30 feet high in a football stadium. The angle of depression to the center of the field is 14° . What is the horizontal distance between Mayuko and the center of the field?

7. A surveyor uses some equipment to measure the height of a cliff. If the surveyor is standing 50 meters back from the base of the cliff and they measure the height of the cliff to be 154 meters, what is the angle of elevation that the equipment used to make this measurement?

8. Shane is 60 feet high on a slide at an amusement park. His friend is at the bottom of the slide, which is 85 feet long. What is the angle of depression from Shane to his friend at the bottom of the slide?

9. Susan and Jorge stand 38 m apart. From Susan's position, the angle of elevation to the top of Big Ben is 65° . From Jorge's position, the angle of elevation to the top of Big Ben is 49.5° . How tall is Big Ben?



10. Explain how you identify each side of a right triangle as either the hypotenuse, the adjacent side, or the opposite side.