

Applications of Right Triangle Trigonometry

In-Class Examples

1. The angle of depression from the top of a building to a point on the ground which is 352 ft away from the base of the building is 37° . How tall is the building?
2. Points A and B are on the bank of a river and are 50 ft apart. Point C is on the other side of the river with $\angle CAB = 90^\circ$ and $\angle ABC = 85^\circ$. How wide is the river?
3. A guy wire is attached to point A on the ground and point B on an antenna. Point A is 37 ft from the base of the antenna, and the angle of elevation from point A to point B is 73° . How long is the guy wire?
4. A four-sided pyramid is 70 ft high. On each side, the distance from the base of the pyramid to the top is 100 ft. What is the angle made at the top of the pyramid by opposite sides? Two sides of the pyramid are opposite if the only place they meet is at the top.
5. A surveyor is measuring the height of a small mountain. At one location (which is an unknown distance from the base of the mountain), the angle of elevation to the top of the mountain is 5° . At a point 2 miles closer to the base of the mountain, the angle of elevation is 7° . How tall is the mountain?