

Example:

The distance from where the building is observed is 90ft from its base and the angle of elevation to the top of the building is 35° . Now find.

Solution:

Given:

1. Distance from the building is 90 feet from the building.
2. The angle of elevation from to the top of the building is 35° .

To solve and find the height of the tower by recalling the trigonometric formulas. Here, the angle and the adjacent side length are provided. So, using the formula of tan.

$$\tan 35^\circ = \frac{\text{Opposite Side}}{\text{Adjacent Side}}$$

$$\tan 35^\circ = \frac{h}{90}$$

$$h = 90 \times \tan 35^\circ$$

$$h = 90 \times 0.47238$$

$$h = 42.64 \text{ feet}$$

Thus, the height of the building is 42.64 feet.

Aviation technology has been evolved in many up-gradations in the last few years. It has taken into account the speed, direction, and distance as well as have to consider the speed and direction of the wind. The wind plays a vital role in when and how a flight will travel. This equation can be solved by using trigonometry.

For example, if an aero plane is travelling at 250 miles per hour, 55° of north of east and the wind blowing due to south at 19 miles per hour. This calculation will be solved using the trigonometry and find the third side of the triangle that will lead the aircraft in the right direction.