

Conditions

The angle of depression from the top of a building to a point on the ground which is 47feet, from the base of the building is 38degree. Find the height of the building ?

Solution

The lines from the top of a building to a point on the ground, from this point to the point on the base of the building, and from this point to a top of the building (actually, this is a height of the building) could be considered as sides of a right triangle, with a 90 degrees angle at a point of the base of the building.

That's why, 47 feet is a cathetus, and the height of the building is an another cathetus. And the height (H) is:

$$H = \frac{47}{\operatorname{tg} 38^\circ}$$

Answer: $H = \frac{47}{\operatorname{tg} 38^\circ}$