

Answer: 14.036 degrees

1.

A pilot is traveling at a height of 30,000 feet above level ground. She looks down at an angle of depression of 6° and spots the runway. As measured along the ground, about how many feet is she from the runway?

Answer: 285,430.934 ft

7.

An operator at the top of a lighthouse sights a sailboat. The point from which the sighting is made is 25 m above sea level. The angle of depression of the sighting is 10° . How far is the boat from the base of the lighthouse?

Answer: 141.782 meters

5.

At what angle of elevation must a 5.2 meter ladder be placed to reach a vertical height of 3.8 meters on a wall?

Answer: 46.951 meters

2.

A small airplane climbs at an angle of 18° with the ground. Find the horizontal distance it has flown when it has reached an altitude of 800 m.

Answer: 2462.147 meters

4.

A man, who is holding a kite string 4 feet above the ground, lets out 100 feet of string. If the angle of elevation from his hands to the kite is 52 degrees, what is the height of the kite from the ground?

Answer: 83.801 feet

8.

The sun is at an angle of elevation of 58° . A tree casts a shadow 20 meters long on the ground. How tall is the tree?

Answer: 32.007 meters

6.

A ship is on the surface of the water, and its radar detects a submarine 238 feet away. If the submarine is 93 feet underwater, what is the submarine's angle of depression from the boat?

Answer: 23.002 degrees

3.

A boy climbs to the top of a tree and sees his friend 100 feet from the base of the tree. If the tree is 25 feet tall, what is the angle of depression to his friend?