Trigonometry Word Problems Worksheet

Question 1 : The angle of elevation of the top of the building at a distance of 50 m from its foot on a horizontal plane is found to be 60 degree. Find the height of the building.

Question 2 : A ladder placed against a wall such that it reaches the top of the wall of height 6 m and the ladder is inclined at an angle of 60 degree. Find how far the ladder is from the foot of the wall.

Question 3 : A string of a kite is 100 meters long and it makes an angle of 60° with horizontal. Find the height of the kite, assuming that there is no slack in the string.

Question 4 : From the top of the tower 30 m height a man is observing the base of a tree at an angle of depression measuring 30 degree. Find the distance between the tree and the tower.

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Question 5 : A man wants to determine the height of a light house. He measured the angle at A and found that tan A = 3/4. What is the height of the light house if A is 40 m from the base ?

Question 6 : A ladder is leaning against a vertical wall makes an angle of 20° with the ground. The foot of the ladder is 3 m from the wall. Find the length of ladder.

Question 7 : A kite flying at a height of 65 m is attached to a string inclined at 31° to the horizontal. What is the length of string ?

Question 8 : The length of a string between a kite and a point on the ground is 90 m. If the string is making an angle θ with the level ground such that tan θ = 15/8, how high will the kite be ?

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Question 9 : An airplane is observed to be approaching the airport. It is at a distance of 12 km from the point of observation and makes an angle of elevation of 50 degree. Find the height above the ground.

Question 10 : A balloon is connected to a meteorological station by a cable of length 200 m inclined at 60 degree angle . Find the height of the balloon from the ground. (Imagine that there is no slack in the cable)

Answers:

1. 86.6 m   6.   3.19 m
2. 3.464 m   7.   126.2 m
3. 86.6 m   8.   79.41 m
4. 51.96 m   9.   9.19 km
5. 30 m   10.   173.2 m