



BankExamCafe

Some Applications of Trigonometry

1. A Tower stands vertically on the ground. From a point on the ground, 20 m away from the foot of the tower, the angle of elevation of the top of the tower is 60° . What is the height of the tower.
2. The angle of elevation of the top of a tower at a distance of 150 m from its foot on a horizontal plane is found to be 30° . Find the height of the tower correct upto one place of decimal.
3. From a point P on a level ground, the angle of elevation of the top of a tower is 30° . If the tower is 100 m high, how far is P from the foot of the tower?
4. If the length of a shadow cast by a pole is $\sqrt{3}$ times the length of the pole, find the angle of elevation of the sun.
5. A string of a kite is 150 m long and it makes an angle of 60° with the horizontal. Find the height of the kite from the ground.
6. A pole having been broken by wind, the top struck the ground at an angle of 30° and at a distance of 8 m from the foot of the pole. Find the height of the pole before it was broken.
7. The angle of elevation of the top of a tower from a point A on the ground is 30° . On moving a distance of 20m towards the foot of the tower to a point B, the angle of elevation increases to 60° . Find the height of the tower and distance of the tower from the point A.
8. The shadow of a tower, when the angle of elevation of sun is 45° , is found to be 10 metres longer than when it is 60° . Find the height of the tower.
9. The shadow of a flagstaff is three times as long as the shadow of the flagstaff when the sun rays meet the ground at an angle of 60° . Find the angle between the sun rays and the ground at the time of longer shadow.
10. As observed from the top of a lighthouse, 100 metres high above sea level, the angle of depression of a ship moving directly towards it, changes from 30° to 60° . Determine the distance travelled by the ship during the period of observation.
11. The angle of depression of the top and the bottom of a 7 m tall building from the top of a tower are 45° and 60° respectively. Find the height of the tower.
12. The angles of depression of the top and the bottom of a 7 m tall building from the top of a tower are 45° and 60° , respectively. Find the height of the tower.
13. From the top of a cliff 50 m high, the angles of depression of the top and bottom of a tower are observed to be 30° and 45° , respectively. Find the height of the tower.
14. A pole 5 m high is fixed on the top of a tower. The angle of elevation of the top of the pole observed from a point 'A' on the ground is 60° and the angle of depression of the point 'A' from the top of the tower is 45° . Find the height of the tower.
15. The angle of elevation of a cloud from a point 200 m above a lake is 30° and the angle of depression of its reflection in the lake is 60° . Find the height of the cloud.

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