PRACTICE TEST: CLASS-X

TRIGO-APPLICATION (II) (X)

1. A person standing on the bank of the river observes that angle of elevation of the top of a tree standing on the opposite bank is 60^0. When he moves 40 meters away from the bank, he finds the angle elevation to be 30^0. Find the height of the tree and the width of the river.

2. A man on the top of a vertical tower observes a car moving at a uniform speed coming directly towards it. If it takes 12 min for the angle of depression to change from 30^0 to 45^0, how soon after this, will the car reach the tower, give answer to nearest second.

3. Two pillars of equal height and on either side of a road, which 100 m wide. The angle of elevation of the top of the pillar is 60^0 and 30^0 at a point on the road between the pillars. Find the position of the point between the pillar and the height of each pillar.

4. The angle of elevation of the top Q of a vertical tower PQ from point x on the ground is 60^0. At a point Y, 40m vertically above x, the angle of elevation is 45^0. Find the height of the tower PQ and the distance XQ.

5. From a window 15m high above the ground in a street, the angle of elevation and depression of the top and the foot of another house on the opposite side of the street are 30^0 and 45^0 respectively. Show that the height of the opposite's house is 23.66 m.

6. A man standing on the deck of a ship, which is 10m above water level. He observes the angle of elevation of the top of a hill is 60^0 and angle of depression of the base of the hill is 30^0. Calculate the distance of the hill from ship and height of the hill.

7. A man on a cliff observes a boat at an angle of depression of 30^0 which is approaching the shore to the point immediately beneath the observer with a uniform speed. Six minutes later, the angle of depression of the boat is found to be 60^0. Find the time taken by the boat to reach the shore.

8. From the top of a 7m high building, the angle of elevation of the top of a cable tower is 60^0 and the angle of depression of its foot is 45^0. Determine the height of the tower.