

## PRACTICE TEST: CLASS-X

### TRIGO – APPLICATIONS (X)

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1. An observer 1.5m tall is 28.5m away from a tower. The angle of elevation of the top of the tower from her eyes is  $45^\circ$ . What is the height of the tower?
2. From a point on the ground 40m away from the foot of a tower the angle of elevation of the top of the tower is  $30^\circ$ . The angle of elevation of the top of a water tank (on top of the tower) is  $45^\circ$ . Find (i) height of the tower (ii) the depth of tank.
3. At a point on level ground the angle of elevation of a vertical tower is found to be such that its tangent is  $\frac{5}{1}$ . On walking 192 km towards the tower, the tangent of the angle of elevation is  $\frac{3}{4}$ . Find the height of the tower.
4. From the top of a hill, the angles of depression of two consecutive kilometre stones due east are found to be  $30^\circ$  and  $45^\circ$ . Find the height of the hill.
5. An aeroplane at an altitude of 1200m finds that two ships are sailing towards it in the same direction. The angle of depression of the ships as observed from the aeroplane is  $60^\circ$  and  $30^\circ$  respectively. Find the distance between two ships.
6. From a window 15 metres high above the ground in a street, the angles of elevation and depression of the top and the foot of another house on the opposite side of the street are  $30^\circ$  and  $45^\circ$  respectively show that the height of the opposite house is 23.66 m take
7. The angle of elevation of a cloud from a point 60m above a lake is  $30^\circ$  and the angle of depression of the reflection of cloud in the lake is  $60^\circ$ . Find the height of the cloud.
8. A 1.2m tall girl spots a balloon moving with the wind in horizontal line at a height of 88.2m from the ground. The angle of elevation of the balloon from the eyes of the girl at any instant is  $60^\circ$ . After some time, the angle of elevation reduces to  $30^\circ$ . Find the distance travelled by the balloon during the interval.