EduSahara™ Assignment

Name : Heights and Distances - 2

Chapter : Heights and Distances

Grade : ICSE Grade X

1. From a point 70 m away from a vertical cliff, the angles of elevation of the top and the foot of a vertical pillar at the top of the cliff are 60° and 30° respectively. Find the height of the cliff.

(i) 43.42 m (ii) 45.42 m (iii) 35.42 m (iv) 37.42 m (v) 40.42 m

2. From a point 60 m away from a vertical cliff, the angles of elevation of the top and the foot of a vertical pillar at the top of the cliff are 60° and 30° respectively. Find the height of the pillar.

(i) 66.28 m (ii) 64.28 m (iii) 69.28 m (iv) 72.28 m (v) 74.28 m

3. The angles of depression of two boats from the top of a cliff 60 m high are 60° and 45° respectively. Find the distance between the boats, if the boats are on the same side of the cliff .

(i) 25.36 m (ii) 30.36 m (iii) 22.36 m (iv) 28.36 m (v) 20.36 m

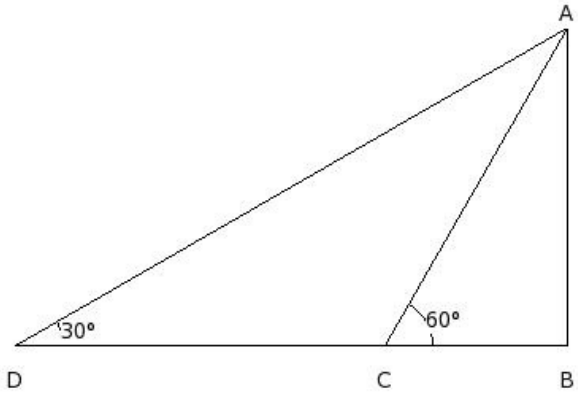
4. The angles of depression of two boats from the top of a cliff 200 m high are 60° and 45° respectively. Find the distance between the boats, if the boats are on the opposite sides of the cliff .

(i) 331.48 m (ii) 323.48 m (iii) 300.48 m (iv) 315.48 m (v) 298.48 m

5. A man on the top of a vertical observation tower observes a car moving at a uniform speed coming directly towards him. If it takes 6 min for the angle of depression to change from 45° to 60°, how soon after this, will the car reach the observation tower?

(i) 8 min 12 sec (ii) 7 min 11 sec (iii) 5 min 10 sec (iv) 10 min 14 sec (v) 9 min 13 sec

6. The shadow of a vertical tower BA on a level ground is increased by 40 m, when the altitude of the sun changes from 60° to 30°. Find the height of the tower .



(i) 34.65 m (ii) 39.65 m (iii) 37.65 m (iv) 29.65 m (v) 31.65 m

7. A boy standing on a vertical cliff in a jungle observes two rest houses in line with him on opposite sides deep in the jungle below. If their angles of depression are 60° and 45° and the distance between them is 160 m , find the height of the cliff.

(i) 101.44 m (ii) 129.44 m (iii) 114.44 m (iv) 87.44 m

8. A man in a boat rowing away from a lighthouse 35 m high, takes 4 min to change the angle of elevation of the top of the lighthouse from 60° to 45°. Find the speed of the boat.

(i) 8.06 m/sec (ii) 7.06 m/sec (iii) 1.06 m/sec (iv) 0.06 m/sec (v) 2.06 m/sec

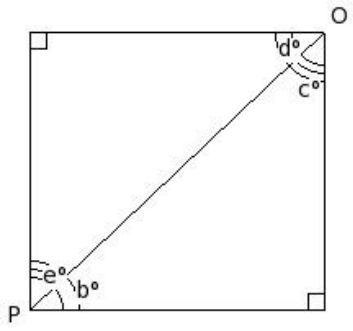
9. A man 1.8 m tall stands at a distance of 5.8 m from a lamp post and casts a shadow of 6.1 m on the ground. Find the height of the lamp post .

(i) 3.51 m (ii) 1.51 m (iii) 5.51 m (iv) 2.51 m (v) 4.51 m

10. Two vertical poles are on either side of a road. A 21 m long ladder is placed between the two poles. When the ladder rests against one pole, it makes an angle of 30° with the pole and when it is turned to rest against another pole, it makes an angle of 60° with the road. Find the width of the road.

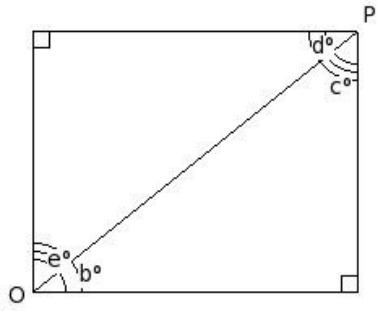
(i) 25.69 m (ii) 31.69 m (iii) 33.69 m (iv) 28.69 m (v) 23.69 m

11. If P is the point of observation and the observed object is at point O, which of the following angles represent the angle of elevation ?



(i) ∠d (ii) ∠e (iii) ∠b (iv) ∠c

12. If P is the point of observation and the observed object is at point O, which of the following angles represent the angle of depression ?



(i) ∠b (ii) ∠c (iii) ∠e (iv) ∠d

Assignment Key

1) (v)	2) (iii)	3) (i)	4) (iv)	5) (i)	6) (i)
7) (i)	8) (iv)	9) (i)	10) (iv)	11) (iii)	12) (iv)