EduSahara™ Assignment

Name : Heights and Distances - 2

Chapter : Heights and Distances

Grade : ICSE Grade X

1. From a point 140 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 45° and 30° respectively. Find the height of the cliff.

(i) 83.84 m (ii) 85.84 m (iii) 75.84 m (iv) 80.84 m (v) 77.84 m

2. 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 pillar.

(i) 85.83 m (ii) 75.83 m (iii) 80.83 m (iv) 83.83 m (v) 77.83 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) 22.36 m (ii) 28.36 m (iii) 20.36 m (iv) 30.36 m (v) 25.36 m

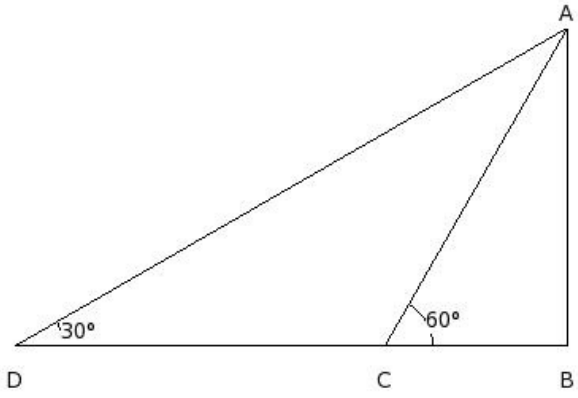
4. The angles of depression of two boats from the top of a cliff 90 m high are 30° and 60° respectively. Find the distance between the boats, if the boats are on the opposite sides of the cliff .

(i) 229.86 m (ii) 203.86 m (iii) 179.86 m (iv) 221.86 m (v) 207.86 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 15 min for the angle of depression to change from 30° to 60°, how soon after this, will the car reach the observation tower?

(i) 8 min 31 sec (ii) 4 min 28 sec (iii) 9 min 32 sec (iv) 6 min 29 sec (v) 7 min 30 sec

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



(i) 22.98 m (ii) 28.98 m (iii) 30.98 m (iv) 25.98 m (v) 20.98 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 30° and the distance between them is 120 m , find the height of the cliff.

(i) 46.97 m (ii) 51.97 m (iii) 56.97 m (iv) 54.97 m (v) 48.97 m

8. A man in a boat rowing away from a lighthouse 85 m high, takes 4.5 min to change the angle of elevation of the top of the lighthouse from 60° to 45°. Find the speed of the boat.

(i) 1.13 m/sec (ii) 7.13 m/sec (iii) 8.13 m/sec (iv) 2.13 m/sec (v) 0.13 m/sec

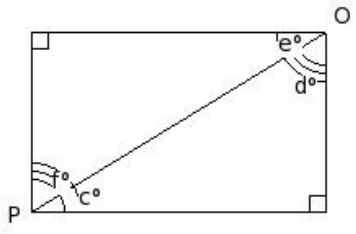
9. A man 1.3 m tall stands at a distance of 9.8 m from a lamp post and casts a shadow of 2.5 m on the ground. Find the height of the lamp post .

(i) 5.40 m (ii) 7.40 m (iii) 8.40 m (iv) 4.40 m (v) 6.40 m

10. Two vertical poles are on either side of a road. A 22 m long ladder is placed between the two poles. When the ladder rests against one pole, it makes an angle of 60° with the pole and when it is turned to rest against another pole, it makes an angle of 45° with the road. Find the width of the road.

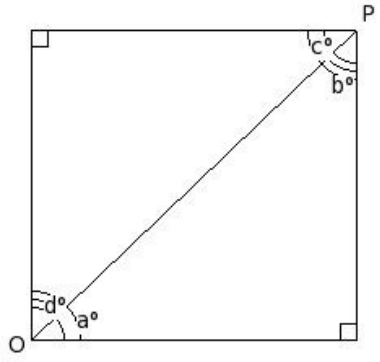
(i) 31.56 m (ii) 21.56 m (iii) 29.56 m (iv) 23.56 m (v) 26.56 m

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) ∠c (ii) ∠f (iii) ∠d (iv) ∠e

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) ∠c (ii) ∠b (iii) ∠a (iv) ∠d

Assignment Key

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