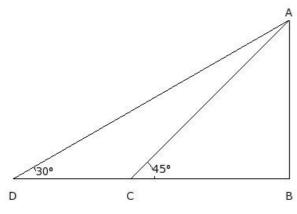
Name : Heights and Distances - 2

Chapter: Heights and Distances

Grade: ICSE Grade X

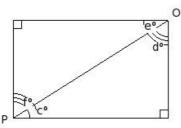
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- 1. From a point 90 m away from a vertical cliff, the angles of elevation of the top and the foot of a vertical pillar at the top of the cliff are 60° and 45° respectively. Find the height of the cliff.
 - (i) 95.00 m (ii) 85.00 m (iii) 87.00 m (iv) 90.00 m (v) 93.00 m
- 2. From a point 100 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 pillar.
 - (i) 45.26 m (ii) 39.26 m (iii) 42.26 m (iv) 47.26 m (v) 37.26 m
- The angles of depression of two boats from the top of a cliff 110 m high are 45° and 30° respectively. Find the distance between the boats, if the boats are on the same side of the cliff.
 - (i) 75.53 m (ii) 80.53 m (iii) 85.53 m (iv) 77.53 m (v) 83.53 m
- The angles of depression of two boats from the top of a cliff 140 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) 341.33 m (ii) 316.33 m (iii) 323.33 m (iv) 328.33 m (v) 309.33 m
- A man on the top of a vertical observation tower observes a car moving at a uniform speed coming directly 5. towards him. If it takes 16 min for the angle of depression to change from 30° to 45°, how soon after this, will the car reach the observation tower?
 - (i) 24 min 54 sec (ii) 20 min 51 sec (iii) 21 min 52 sec (iv) 22 min 53 sec (v) 19 min 49 sec
- 6. The shadow of a vertical tower BA on a level ground is increased by 15 m, when the altitude of the sun changes from 45° to 30°. Find the height of the tower .

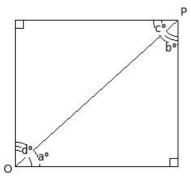


- (i) 23.49 m (ii) 20.49 m (iii) 15.49 m (iv) 17.49 m (v) 25.49 m
- A boy standing on a vertical cliff in a jungle observes two rest houses in line with him on opposite sides deep in the 7. jungle below. If their angles of depression are 45° and 60° and the distance between them is 165 m, find the height of the cliff.
 - (i) 88.61 m (ii) 81.61 m (iii) 110.61 m (iv) 119.61 m (v) 104.61 m
- 8. A man in a boat rowing away from a lighthouse 30 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) 0.05 m/sec (ii) 8.05 m/sec (iii) 2.05 m/sec (iv) 1.05 m/sec (v) 7.05 m/sec

- A man 1.4 m tall stands at a distance of 3.5 m from a lamp post and casts a shadow of 7.1 m on the ground. Find the height of the lamp post .
 - (i) 0.09 m (ii) 3.09 m (iii) 1.09 m (iv) 2.09 m (v) 4.09 m
- Two vertical poles are on either side of a road. A 25 m long ladder is placed between the two poles. When the 10. 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 45° with the road. Find the width of the road.
 - (i) 42.33 m (ii) 44.33 m (iii) 34.33 m (iv) 36.33 m (v) 39.33 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) ∠c (iv) ∠f
- 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) ∠d (ii) ∠c (iii) ∠a (iv) ∠b

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

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