EduSahara™ Learning Center Assignment

Grade : Class X, ICSE
Chapter : Heights and Distances
Name : Heights and Distances - 2

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1. From a point 140 mt 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) 75.84 mt

   (ii) 85.84 mt

   (iii) 77.84 mt

   (iv) 83.84 mt

   (v) 80.84 mt

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2. From a point 200 mt 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) 89.52 mt

   (ii) 84.52 mt

   (iii) 79.52 mt

   (iv) 81.52 mt

   (v) 87.52 mt

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3. The angles of depression of two boats from the top of a cliff 90 mt high are 60° and 45° respectively. Find the distance between the boats, if the boats are on the same side of the cliff

   (i) 41.03 mt

   (ii) 33.03 mt

   (iii) 43.03 mt

   (iv) 38.03 mt

   (v) 35.03 mt

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4. The angles of depression of two boats from the top of a cliff 50 mt high are 30° and 60° respectively. Find the distance between the boats, if the boats are on the opposite sides of the cliff

   (i) 112.48 mt

   (ii) 121.48 mt

   (iii) 115.48 mt

   (iv) 101.48 mt

   (v) 132.48 mt

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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 45° to 60°, how soon after this, will the car reach the observation tower?

   (i) 20 min. 29 sec

   (ii) 21 min. 30 sec

(iii) 19 min. 28 sec

(iv) 18 min. 27 sec

(v) 22 min. 32 sec

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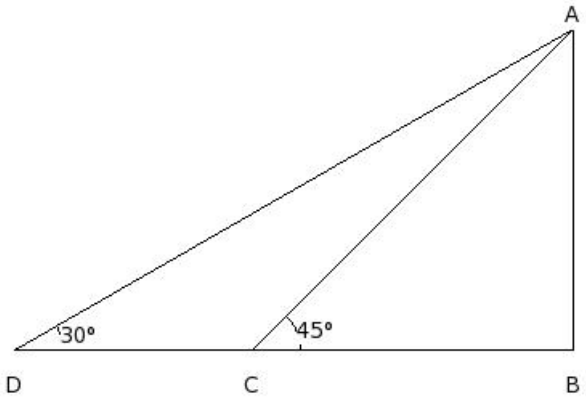
6. The shadow of a vertical tower BA on a level ground is increased by 30 mt, when the altitude of the sun changes from 45° to 30°. Find the height of the tower



(i) 40.99 mt (ii) 37.99 mt (iii) 43.99 mt

(iv) 45.99 mt (v) 35.99 mt

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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 30° and 60° and the distance between them is 155 mt , find the height of the cliff

(i) 62.12 mt

(ii) 72.12 mt

(iii) 70.12 mt

(iv) 64.12 mt

(v) 67.12 mt

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8. A man in a boat rowing away from a lighthouse 85 mt high, takes 3.5 min. to change the angle of elevation of the top of the lighthouse from 45° to 30°. Find the speed of the boat.

(i) 8.30 m/sec

(ii) 0.30 m/sec

(iii) 1.30 m/sec

(iv) 7.30 m/sec

(v) 2.30 m/sec

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9. A man 1.8 mt tall stands at a distance of 5.9 mt from a lamp post and casts a shadow of 5.4 mt on the ground. Find the height of the lamp post .

(i) 4.77 mt

(ii) 5.77 mt

(iii) 2.77 mt

(iv) 1.77 mt

(v) 3.77 mt

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10. Two vertical poles are on either side of a road. A 39 mt 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 30° with the road. Find the width of the road

(i) 50.27 mt

(ii) 53.27 mt

(iii) 56.27 mt

(iv) 48.27 mt

(v) 58.27 mt

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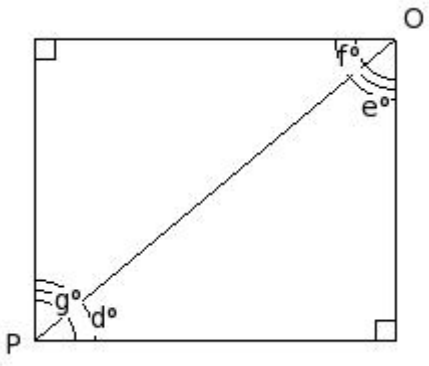
11. If P is the point of observation and the observed object is at point O, which of the following angles represent the angle of elevation ?



(i) ∠d (ii) ∠g (iii) ∠e (iv) ∠f

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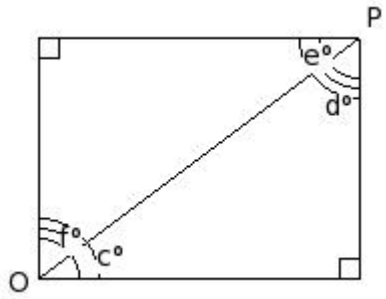
12. If P is the point of observation and the observed object is at point O, which of the following angles represent the angle of depression ?



(i) ∠f (ii) ∠e (iii) ∠d (iv) ∠c

Assignment Key

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