1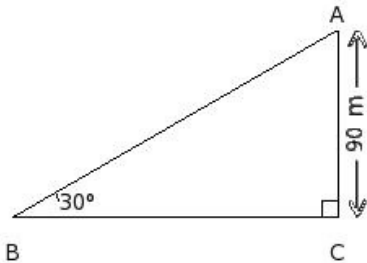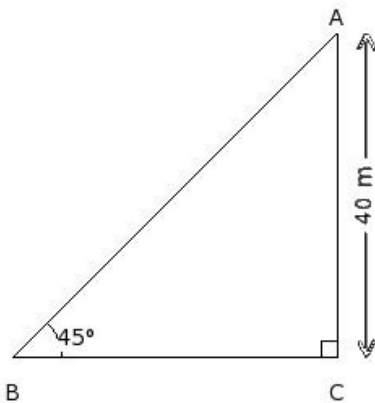. A tower stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the tower is found to be 30°. If the height of the tower is 90 m, find the distance between the observation point and the top of the tower.
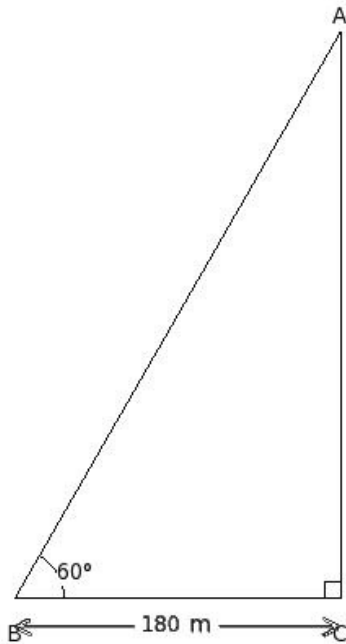

(i) 178 m (ii) 179 m (iii) 182 m (iv) 181 m (v) 180 m

2. A tower stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the tower is found to be 45°. If the height of the tower is 40 m, find the distance between the observation point and the foot of the tower.
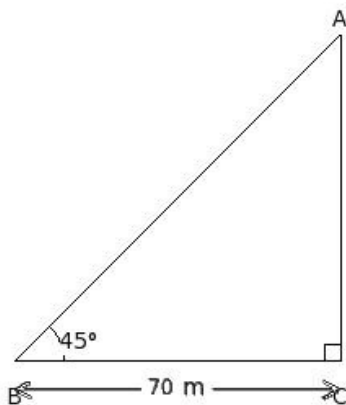

(i) 40 m (ii) 38 m (iii) 41 m (iv) 39 m (v) 43 m

3. A tower stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the tower is found to be 60°. If the distance between the point and the foot of the tower is 180 m, find the distance between the observation point and the top of the tower.
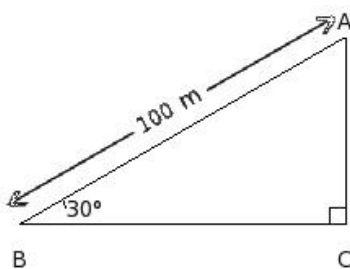

(i) 359 m (ii) 358 m (iii) 362 m (iv) 360 m (v) 361 m

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4. A building stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the building is found to be 45°. If the distance between the point and the foot of the building is 70 m, find the height of the building.


(i) 67 m (ii) 70 m (iii) 69 m (iv) 73 m (v) 71 m

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5. A chimney stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the chimney is found to be 30°. If the distance between the point and the top of the chimney is 100 m, find the height of the chimney.

(i) 52 m (ii) 51 m (iii) 49 m (iv) 50 m (v) 48 m

6. A chimney stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the chimney is found to be 45°. If the distance between the point and the top of the chimney is 50 m, find the distance between the observation point and the foot of the chimney.
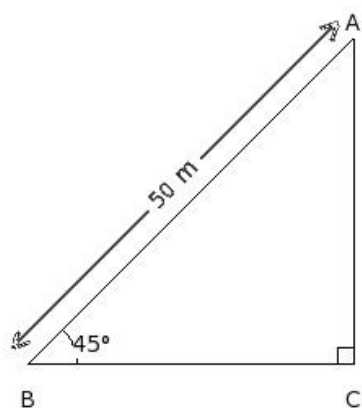
(i) 25 m (ii) 25√2 m (iii) 50 m (iv) $\dfrac{25}{2}\sqrt{12}$ m (v) 50√3 m

7. A tower stands vertically on the ground.
The distance between the observation point and its foot tower is 70 m.
The distance between the observation point and its top is 140 m.
Find the angle of elevation.

(i) 60° (ii) 105° (iii) 45° (iv) 30° (v) 90°

8. The upper part of a tree is broken into two parts without being detatched. It makes an angle of 60° with the ground. The top of the tree touches the ground at a distance of 130 m from the foot of the tree . Find the height of the tree before it was broken.

(i) 468.17 m (ii) 471.17 m (iii) 485.17 m (iv) 490.17 m (v) 502.17 m

9. An observer 1.8 m tall, is 110 m away from a tower . The angle of elevation of the top of the tower from her eyes is 45°. Find the height of the tower .

(i) 111.80 m (ii) 95.80 m (iii) 86.80 m (iv) 127.80 m (v) 119.80 m

10. A man 1.9 m tall stands at a distance of 3.5 m from a lamp post and casts a shadow of 9.7 m on the ground. Find the height of the lamp post .
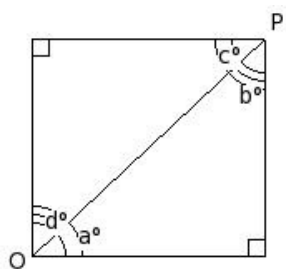
(i) 3.59 m (ii) 1.59 m (iii) 2.59 m (iv) 4.59 m (v) 0.59 m

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 ?
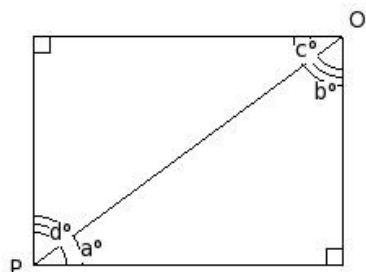
(i) ∠c (ii) ∠d (iii) ∠b (iv) ∠a

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) ∠a (iii) ∠d (iv) ∠b

Assignment Key

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