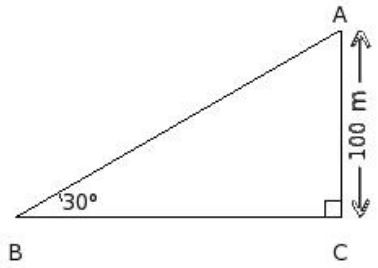
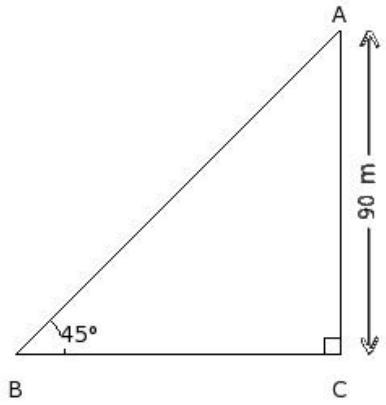
1. A tower stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the tower is found to be 30°. If the height of the tower is 100 m, find the distance between the observation point and the top of the tower.



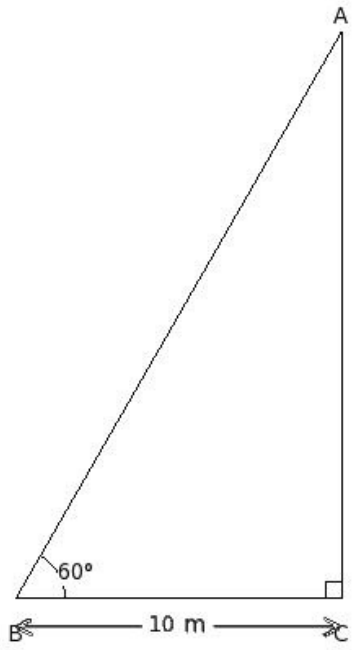
(i) 201 m (ii) 199 m (iii) 197 m (iv) 203 m (v) 200 m

2. 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 height of the building is 90 m, find the distance between the observation point and the foot of the building.



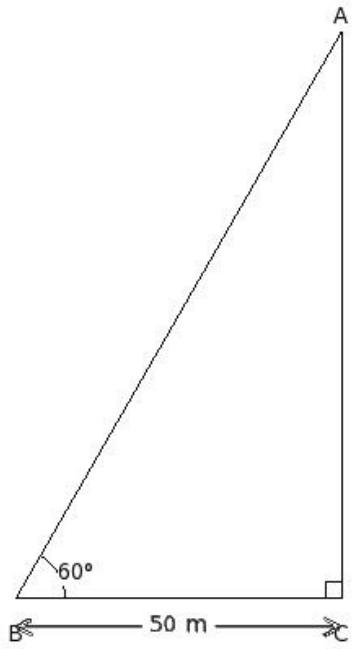
(i) 88 m (ii) 93 m (iii) 89 m (iv) 91 m (v) 90 m

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 10 m, find the distance between the observation point and the top of the tower.



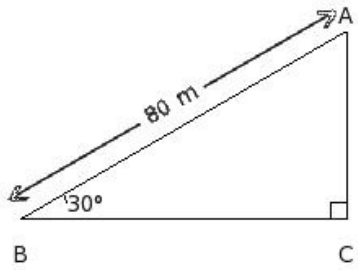
(i) 20 m (ii) 23 m (iii) 19 m (iv) 17 m (v) 21 m

4. 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 50 m, find the height of the tower.



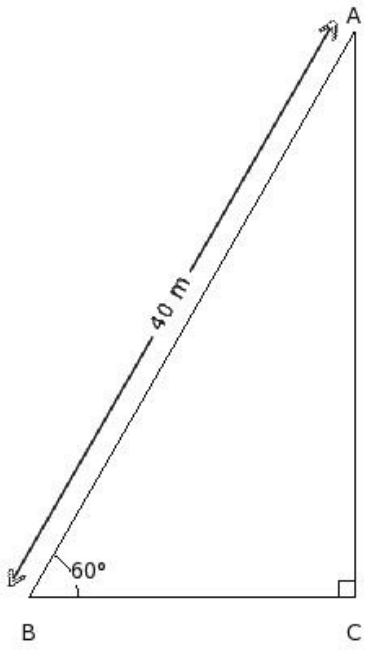
(i) $50\sqrt{18}$ m (ii) $75\sqrt{2}$ m (iii) 150 m (iv) $50\sqrt{3}$ m (v) 50 m

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 80 m, find the height of the chimney.



(i) 39 m (ii) 37 m (iii) 41 m (iv) 43 m (v) 40 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 $60°$. If the distance between the point and the top of the chimney is 40 m, find the distance between the observation point and the foot of the chimney.



(i) 19 m (ii) 18 m (iii) 23 m (iv) 20 m (v) 21 m

7. A tower stands vertically on the ground.

The height of the tower is $40\sqrt{3}$ m.

The distance between the observation point and its top is 80 m.

Find the angle of elevation.

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

8. The upper part of a tree is broken into two parts without being detatched. It makes an angle of $45°$ with the ground. The top of the tree touches the ground at a distance of 40 m from the foot of the tree . Find the height of the tree before it was broken.

(i) 99.57 m (ii) 96.57 m (iii) 101.57 m (iv) 93.57 m (v) 91.57 m

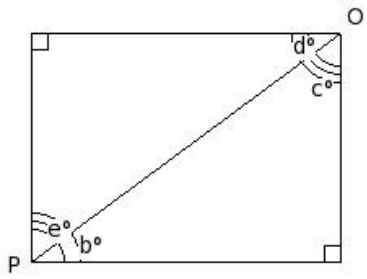
9. An observer 1.5 m tall, is 30 m away from a tower . The angle of elevation of the top of the tower from her eyes is $45°$. Find the height of the tower .

(i) 31.50 m (ii) 36.50 m (iii) 34.50 m (iv) 26.50 m (v) 28.50 m

10. A man 1.8 m tall stands at a distance of 6.8 m from a lamp post and casts a shadow of 9.3 m on the ground. Find the height of the lamp post .

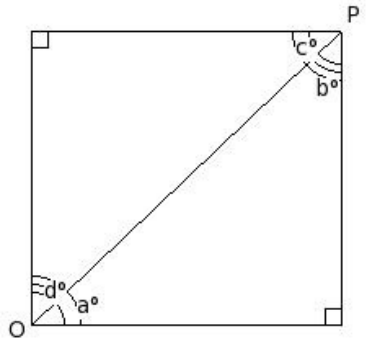
(i) 4.12 m (ii) 5.12 m (iii) 3.12 m (iv) 2.12 m (v) 1.12 m

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) ∠b (iii) ∠e (iv) ∠d

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) ∠a (ii) ∠c (iii) ∠d (iv) ∠b

Assignment Key

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