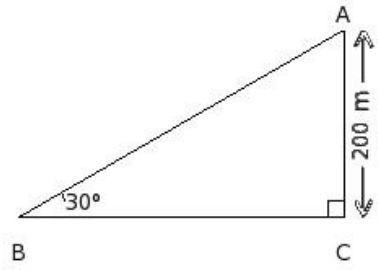
EduSahara™ Assignment

Name : Heights and Distances1

Chapter : Applications of Trigonometry

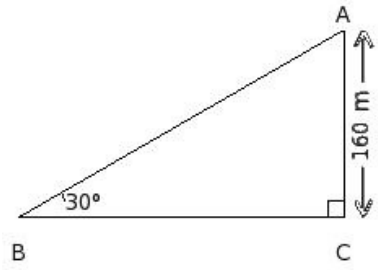
Grade : SSC Grade X

1. 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 height of the chimney is 200 m, find the distance between the observation point and the top of the chimney.



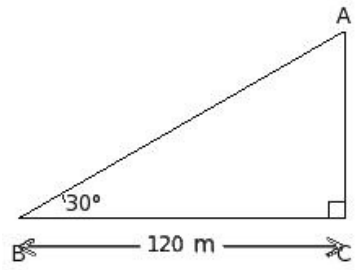
(i) 401 m (ii) 402 m (iii) 400 m (iv) 399 m (v) 397 m

2. A radio tower stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the radio tower is found to be $30°$. If the height of the radio tower is 160 m, find the distance between the observation point and the foot of the radio tower.



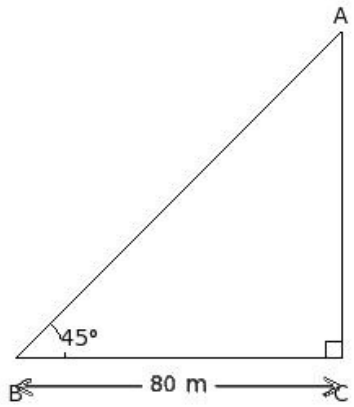
(i) 480 m (ii) $160\sqrt{18}$ m (iii) $160\sqrt{3}$ m (iv) 160 m (v) $240\sqrt{2}$ m

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 $30°$. If the distance between the point and the foot of the tower is 120 m, find the distance between the observation point and the top of the tower.



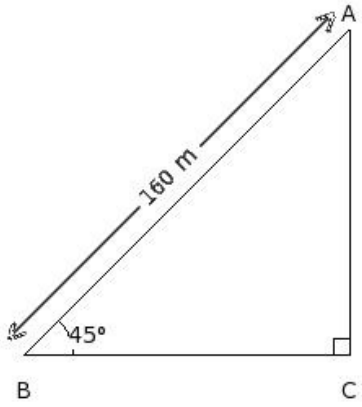
(i) $120\sqrt{2}$ m (ii) 80 m (iii) $80\sqrt{3}$ m (iv) 240 m (v) $80\sqrt{18}$ m

4. A radio tower stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the radio tower is found to be $45°$. If the distance between the point and the foot of the radio tower is 80 m, find the height of the radio tower.



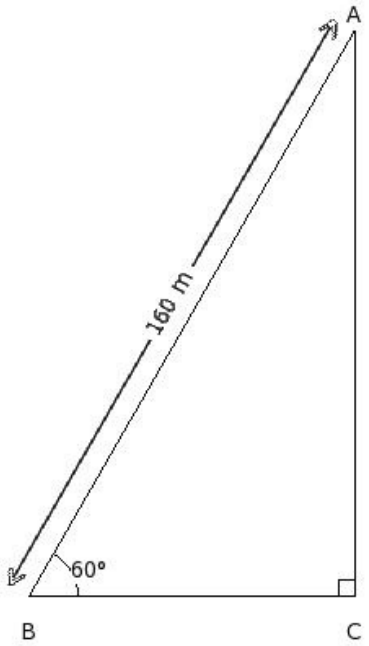
(i) 80 m (ii) 81 m (iii) 83 m (iv) 77 m (v) 79 m

5. 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 distance between the point and the top of the tower is 160 m, find the height of the tower.



(i) 160 m (ii) $80\sqrt{2}$ m (iii) $40\sqrt{12}$ m (iv) $160\sqrt{3}$ m (v) 80 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 160 m, find the distance between the observation point and the foot of the chimney.



(i) 77 m (ii) 79 m (iii) 82 m (iv) 80 m (v) 81 m

7. A tower stands vertically on the ground.

The height of the tower is $90\sqrt{3}$ m .

The distance between the observation point and its foot is 270 m .

Find the angle of elevation.

(i) 75° (ii) 45° (iii) 90° (iv) 30° (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 120 m from the foot of the tree . Find the height of the tree before it was broken.

(i) 289.71 m (ii) 314.71 m (iii) 287.71 m (iv) 273.71 m (v) 296.71 m

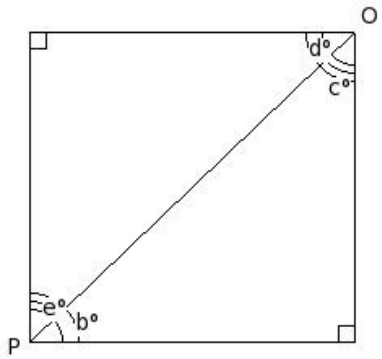
9. An observer 1.9 m tall, is 90 m away from a tower . The angle of elevation of the top of the tower from her eyes is 60°. Find the height of the tower .

(i) 157.79 m (ii) 179.79 m (iii) 141.79 m (iv) 144.79 m (v) 171.79 m

10. A man 1.9 m tall stands at a distance of 4.3 m from a lamp post and casts a shadow of 1.9 m on the ground. Find the height of the lamp post .

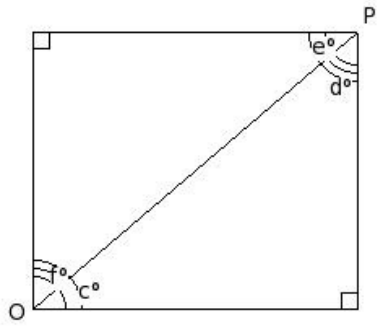
(i) 7.20 m (ii) 5.20 m (iii) 6.20 m (iv) 8.20 m (v) 4.20 m

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) ∠b (ii) ∠e (iii) ∠c (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) ∠d (ii) ∠c (iii) ∠e (iv) ∠f

Assignment Key

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