EduSahara™ Learning Center Assignment

Grade : Class X, SSC
Chapter : Applications of Trigonometry
Name : Heights and Distances1

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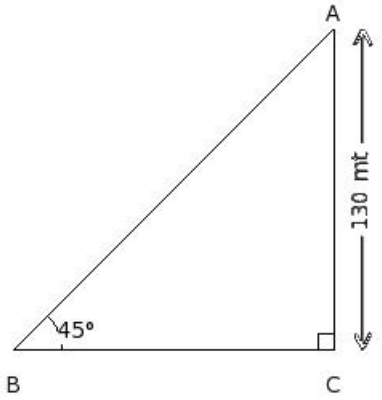
1. A chimney stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the chimney is found to be 45°. If the height of the chimney is 130 mt, find the distance between the observation point and the top of the chimney



(i) 260 mt (ii) $130\sqrt{2}$ mt (iii) $65\sqrt{12}$ mt

(iv) $260\sqrt{3}$ mt (v) 130 mt

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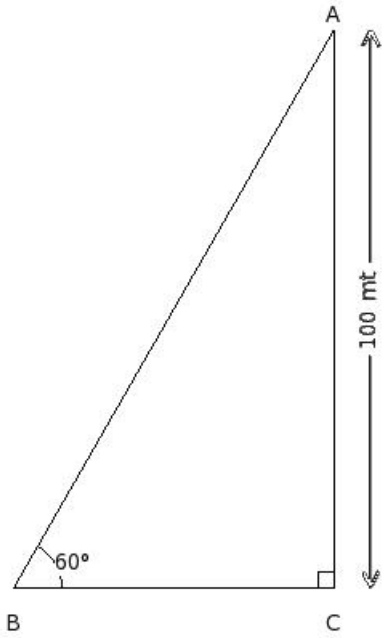
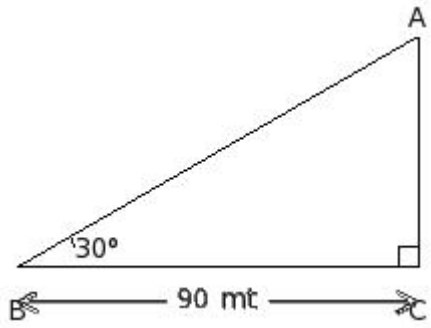
2. A tower stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the tower is found to be 60°. If the height of the tower is 100 mt, find the distance between the observation point and the foot of the tower



(i) $\frac{100}{3}$ mt (ii) $50\sqrt{2}$ mt (iii) $\frac{100}{3}\sqrt{18}$ mt

(iv) $\frac{100}{3}\sqrt{3}$ mt (v) 100 mt

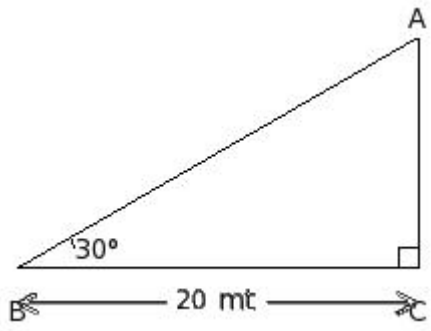
3. A radio tower stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the radio tower is found to be 30°. If the distance between the point and the foot of the radio tower is 90 mt, find the distance between the observation point and the top of the radio tower



(i) $60\sqrt{3}$ mt (ii) 180 mt (iii) $60\sqrt{18}$ mt

(iv) 60 mt (v) $90\sqrt{2}$ mt

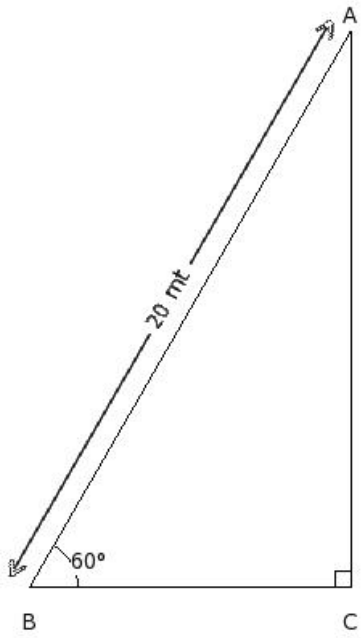
4. A chimney stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the chimney is found to be 30°. If the distance between the point and the foot of the chimney is 20 mt, find the height of the chimney



(i) 20 mt (ii) $\frac{20}{3}\sqrt{18}$ mt (iii) $10\sqrt{2}$ mt

(iv) $\frac{20}{3}\sqrt{3}$ mt (v) $\frac{20}{3}$ mt

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 60°. If the distance between the point and the top of the chimney is 20 mt, find the height of the chimney



(i) 10 mt (ii) $10\sqrt{18}$ mt (iii) $10\sqrt{3}$ mt

(iv) 30 mt (v) $15\sqrt{2}$ mt

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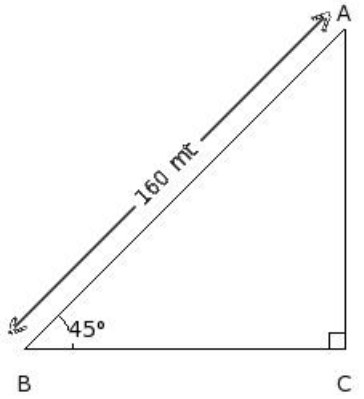
6. A building stands vertically on the ground. From a point on the ground, the angle of elevation of the top of the building is found to be 45°. If the distance between the point and the top of the building is 160 mt, find the distance between the observation point and the foot of the building



(i) $40\sqrt{12}$ mt (ii) $80\sqrt{2}$ mt (iii) 160 mt

(iv) $160\sqrt{3}$ mt (v) 80 mt

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7. A tower stands vertically on the ground.

The distance between the observation point and its foot tower is $120\sqrt{3}$ mt .

The distance between the observation point and its top is 240 mt .

Find the angle of elevation

(i) (ii) (iii)

75° 90° 30°

(iv) 45° (v) 60°

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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 mt from the foot of the tree . Find the height of the tree before it was broken

(i) 462.17 mt (ii) 485.17 mt (iii) 477.17 mt

(iv) 509.17 mt (v) 488.17 mt

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9. An observer 1.8 mt tall, is 190 mt 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) 302.90 mt (ii) 325.90 mt (iii) 346.90 mt

(iv) 330.90 mt (v) 343.90 mt

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10. A man 1.8 mt tall stands at a distance of 3.1 mt from a lamp post and casts a shadow of 4.7 mt on the ground. Find the height of the lamp post .

(i) 0.99 mt

(ii) 3.99 mt

(iii) 1.99 mt

(iv) 4.99 mt

(v) 2.99 mt

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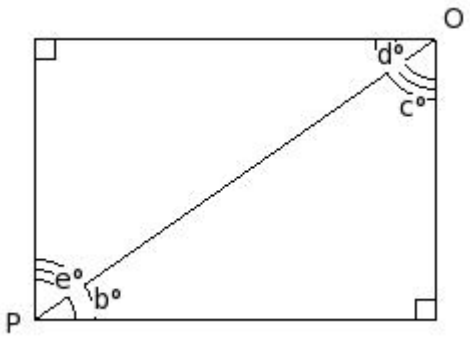
11. If P is the point of observation and the observed object is at point O, which of the following angles represent the angle of elevation ?



(i) ∠d (ii) ∠b (iii) ∠e (iv) ∠c

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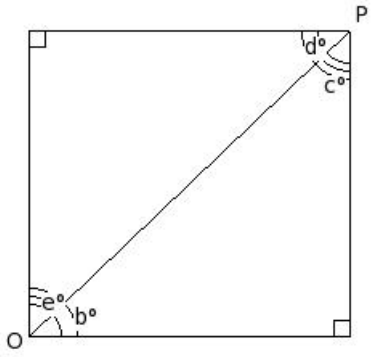
12. If P is the point of observation and the observed object is at point O, which of the following angles represent the angle of depression ?



(i) ∠e (ii) ∠b (iii) ∠d (iv) ∠c

Assignment Key

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