1. Find the angle of elevation of the sun when the shadow of a pole of 18 m height is 6√3 m long?
   A. 30° B. 60° C. 45° D. None of these

2. The angle of elevation of the sun, when the length of the shadow of a tree is √3 times the height of tree, is:
   A. 30-degree B. 45-degree C. 60-degree D. 9 degree

3. The angle of elevation of a ladder leaning against a wall is 60° and the foot of the ladder is 4.6 m away from the wall. The length of the ladder is:
   A. 2.3 m B. 4.6 m C. 7.8 m D. 9.2 m

4. The angle of elevation of the sun, when the length of the shadow of a tree is equal to the height of the tree, is:
   A. 30° B. 45° C. 60° D. None of these

5. The angle of elevation of a ladder leaning against a wall is 60º and the foot of the ladder is 12.4 m away from the wall. The length of the ladder is:
   A. 14.8 m B. 6.2 m C. 12.4 m D. 24.8 m

6. A ladder 10 m long just reaches the top of a wall and makes an angle of 60° with the wall. Find the distance of the foot of the ladder from the wall (√3=1.73).
   A. 4.32 m B. 17.3 m C. 5 m D. 8.65 m

7. From a point P on a level ground, the angle of elevation of the top of a tower is 30^0 If the tower is 100 m high, the distance of point P from the foot of the tower is:
   A. 149 m B. 156 m C. 173 m D. 200 m

8. From a point 20 m away from the foot of a tower, the angle of elevation of the top of the tower is 30°. The height of the tower is:
   A. 10√3 m B. 20√3 m C. 10/√3 m D. 20/√3 m

9. An observer 1.6 m tall is 20√3 away from a tower. The angle of elevation from his eye to the top of the tower is 30°. The heights of the tower is:
   A. 21.6 m B. 23.2 m C. 24.72 m D. None of these

10. From a tower of 80 m high, the angle of depression of a bus is 30°. How far is the bus from the tower?
    A. 40 m B. 138.4 m C. 46.24 m D. 160 m

11. The thread of a kite is 120 m long and it is making 30° angular elevation with the ground. What is the height of the kite?
    A. 60 m B. 20 m C. 40 m D. 10 m

12. The shadow of a building is 20 m long when the angle of elevation of the sun is 60º. Find the height of the building.
    A. 34.64 m B. 38.64 m C. 42.64 m D. 49.64 m

13. A tower is 100√3 metres high. Find the angle of elevation of its top from a point 100 metres away from its foot.
    A. 50º B. 40º C. 80º D. 60º

14. An observer 2 m tall is 10 √ 3 m away from a tower. The angle of elevation from his eye to the top of the tower is 30º. The height of the tower is:
    A. 10 m B. 12 m C. 14 m D. 16 m

15. When the sun's altitude changes from 30° to 60°, the length of the shadow of a tower decreases by 70m. What is the height of the tower?
    A. 55.6 m B. 60.6 m C. 65.6 m D. 70.6 m

16. The angle of elevation of a ladder leaning against a wall is 60º and the foot of the ladder is 12.4 m away from the wall. The length of the ladder is:
    A. 20.8 m B. 22.8 m C. 24.8 m D. None of these

17. The angle of elevation of the top of a tower from a certain point is 30°. If the observer moves 40 m towards the tower, the angle of elevation of the top of the tower increases by 15°. The height is:
    A. 44.6 m B. 54.6 m C. 64.6 m D. 74.6 m

18. The altitude of the sun at any instant is 60º. Find the height of the vertical pole that will cast a shadow of 30 m.
    A. 10√3 m B. 20√3 m C. 30√3 m D. 40√3 m

19. A vertical toy 18 cm long casts a shadow 8 cm long on the ground. At the same time a pole casts a shadow 48 m. long on the ground. Then find the height of the pole?
    A. 1080 cm B. 180 m C. 108 m D. 118 cm

20. A flagstaff 17.5 m high casts a shadow of length 40.25 m. What will be the height of a building, which casts a shadow of length 28.75 m under similar conditions?
    A. 14 cm B. 13.5 cm C. 12.5 cm D. 11.4 cm

21. If the angle of elevation of the sun changes from 30^0 to 45^0, the length of the shadow of a pillar decreases by 20 meters. The height of the pillar is:
    A. 20 (√3-1) m B. 20 (√3+1) m C. 10 (√3-1) m D. 10 (√3+1)

22. The shadow of the tower becomes 60 meters longer when the altitude of the sun changes from 45^0 to 30^0 .Then the height of the tower is:
    A. 20(√3+1) m B. 24 (√3+1) m C. 30 (√3+1) m. D. 30 (√3-1) m

23. On the same side of a tower, two objects are located. Observed from the top of the tower, their angles of depression are 45° and 60°. If the height of the tower is 600 m, the distance between the objects is approximately equal to :
    A. 272 m B. 284 m C. 288 m D. 254 m

24. The angle of elevation of the top of a lighthouse 60 m high, from two points on the ground on its opposite sides are 45° and 60°. What is the distance between these two points?
    A. 45 m B. 30 m C. 103.8 m D. 94.6 m

25. The angle of elevation of the top of a tower from a point A on the ground is 30^0. On moving a distance of 20 metres towards the foot the tower to a point B, the angle of elevation increases to 60^0. The height of the tower is:
    A. √3 m B. 5√3 m C. 10√3 m D. 20√3 m

B.

26. A vertical post 15 ft. high is broken at a certain height and its upper part, not completely separated meets the ground angle of 30^0. Find the height at which the post is broken.
    A. 10 ft. B. 5 ft. C. 15√3 (2-√3) ft. D. 5√3 ft.

27. A man standing at a point P is watching the top of a tower, which makes an angle of elevation of 30º with the man's eye. The man walks some distance towards the tower to watch its top and the angle of the elevation becomes 60º. What is the distance between the base of the tower and the point P?
    A. Data inadequate B. 8 units C. 12 units D. None of these

28. Two ships are sailing in the sea on the two sides of a lighthouse. The angle of elevation of the top of the lighthouse is observed from the ships are 30° and 45° respectively. If the lighthouse is 100 m high, the distance between the two ships is:
    A. 173 m B. 200 m C. 273 m D. 300 m

29. From the top of a hill 100 m high, the angles of depression of the top and bottom of a pole are 30° and 60° respectively. What is the height of the pole?
    A. 46.67 m B. 56.67 m C. 66.67 m D. None of these

30. The angle of elevation of the top of a tower from the point P and Q at distance of 'a' and 'b' respectively from the base of the tower and in the same straight line with it are complementary. The height of the tower is:
    A. √ab B. a/b C. ab D. a^2 b^2

31. The length of the shadow of a vertical tower on level ground increases by 10 metres when the altitude of the sun changes from 45° to 30°. Then the height of the tower is:
    A. 5√3 m B. 10(√3 + 1) m C. 5(√3 + 1) m D. 10√3 m

32. A man standing at a point P is watching the top of a tower, which makes an angle of elevation of 30°. The man walks some distance towards the tower and then his angle of elevation of the top of the tower is 60°. If the height of tower is 30 m, then the distance he moves is:
    A. 22 m B. 22√3 m C. 20 m D. 20√3 m

33. The angle of elevation of the top of a tower from a point on the ground is 30° and moving 70 meters towards the tower it becomes 60°. The height of the tower is:
    A. 10 meter B. 10/√3 meter C. 10√3 meter D. 35√3 meter

34. A tree breaks and falls to the ground such that its upper part is still partially attached to its stem. At what height did it break, if the original height of the tree was 24 cm and it makes an angle of 30° with the ground?
    A. 12 cm B. 8 cm C. 9.5 cm D. 7.5 cm

35. The top of a 15 m. high tower makes an angle of elevation of 60 degree with the bottom of an electric pole and an angle of 30 degree with the top of the pole. What is the height of the pole?
    A. 12 m B. 10 m C. 11 m D. 5 m

36. From the top of a temple near a river the angles of depression of both the banks of river are 45° & 30°. If the height of the temple is 100 m then find out the width of the river.
    A. 50(√3-1)m

B. 100(√3-1)m
C. 200(√3-1)m
D. 300(√3-1)m

37. A toy leaves the earth at a point A and rises vertically at uniform speed. After two minutes of vertical rise boy finds the angular elevation of the balloon as 60°. If the point at which boy is standing is 150 m away from point A, what is the speed of the toy?

A. .98 m/s B. 1.08 m/s C. 1.16 m/s D. 2.16 m/s

38. The angle of elevation of an aeroplane from a point on the ground is 60°. After 15 second flight, the elevation changes to 30°, If the aeroplane is flying at a height of 1500√3 m, find the speed of the plane:
A. 300 m/sec B. 200 m/sec C. 100 m/sec D. 150 m/sec

39. Two pillars of equal height are on either side of a road, which is 120m wide. The angles of elevation of the top of the pillars are 60^0 and 30^0 at a point on the road between the pillars. Find the height of the pillars.

A. 10√3 m B. 30√3 m C. 20√3 m D. None of these

40. Two pillars of equal height are on either side of a road, which is 120m wide. The angles of elevation of the top of the pillars are 60^0 and 30^0 at a point on the road between the pillars. Find the height of the pillars.
A. 25√3 m B. 30√3 m C. 10√3 m D. None of these

Answer Key

1(B)	2(A)	3(D)	4(B)	5(D)	6(D)	7(C)	8(D)	9(A)	10(B)
11(A)	12(A)	13(D)	14(B)	15(B)	16(C)	17(B)	18(C)	19(C)	20(C)
21(D)	22(C)	23(D)	24(D)	25(C)	26(B)	27(A)	28(C)	29(C)	30(A)
31(C)	32(D)	33(D)	34(B)	35(B)	36(B)	37(D)	38(B)	39(B)	40(A)