12. APPLICATIONS OF TRIGONOMETRY

1. If the angle of elevation of the top of a tower at a distance of 500 m from the foot is 30^0. Then the height of the tower is ____
2. A pole 6m high casts a shadow $2\sqrt{3}$m long on the ground, then sun's elevation is ____
3. The height of the tower is 100m. When the angle of elevation of sun is 30^0, then shadow of the tower is ____
4. If the height and length of the shadow of a man are the same, then the angle of elevation of the sun is ____
5. The angle of elevation of the top of a tower, whose height is 100m, at a point whose distance from the base of the tower is 100m is ____
6. The angle of elevation of the top of a tree height $200\sqrt{3}$ m at a point at distance of 200m from the base of the tree is ____
7. A lamp post $5\sqrt{3}$ m high casts a shadow 5m long on the ground. The sun's elevation at this moment is ____
8. The length of shadow of 10m high tree if the angle of elevation of the sun is 30^0 ____
9. If the angle if elevation of a bird sitting on the top of a tree as seen from the point at a distance of 20m from the base of the tree is 60^0. Then the height of the tree is ____
10. The tops of two poles of height 20m and 14m are connected by a wire. If the wire makes an angle of 30^0 with horizontal, then the length of the wire is ____
11. The ratio of the length of a tree and its shadow is $1:1/\sqrt{3}$. The angle of the sun's elevation is ____ degrees.
12. If two towers of height h_1 and h_2 subtend angles of 60^0 and 30^0 respectively at the mid-point of the line joining their feet, then $h_1 : h_2$ is ____
13. The line drawn the eye of an observer to the object viewed is called ____
14. If the angle of elevation of the sun is 30^0, then the ratio of the height of a tree with its shadow is ____
15. From the figure θ = ____
16. The angle of elevation of the sun is 45^0. Then the length of the

shadow of a 12m high tree is ____

17. When the object is below the horizontal level, the angle formed by the line of sight with the horizontal is called ____
18. When the object is above the horizontal level, the angle formed by the line of sight with the horizontal is called ____
19. The angle of depression of a boat is 60m high bridge is 60^0. Then the horzontal distance of the boat from the bridge is ____
20. The height or length of an object can be determined with help of ____

ANSWERS

1) $500\sqrt{3}$; 2) 60^0; 3) $100\sqrt{3}$m; 4) 45^0;
5) 45^0; 6) 60^0; 7) 60^0; 8) $10\sqrt{3}$m;
9) $20\sqrt{3}$m; 10) 12m; 11) 60^0; 12) 3:1;
13) Line of sight; 14)1: $\sqrt{3}$; 15) 60^0;
16) 12m; 17) Angle of depression;
18) Angle of elevation; 19) $20\sqrt{3}$m;
20) Trigonometric Ratios.