KALYAN ACADEMY

BHARATH NAGAR, HYD-18
APPLICATIONS OF TRIGONOMETRY | CLASS X | WORKSHEET-1

1. A tree casts a shadow 21 m long. The angle of elevation of the sun is 60°. What is the height of the tree?

2. A helicopter is hovering over a landing pad 100 m from where you are standing. The helicopter's angle of elevation with the ground is 30°. What is the altitude of the helicopter?

3. You are flying a kite and have let out 80 m of string. The kite's angle of elevation with the ground is 45°. If the string is stretched straight, how high is the kite above the ground?

4. A 15 m pole is leaning against a wall. The foot of the pole is 10 m from the wall. Find the angle the pole makes with the ground.

5. A guy wire reaches from the top of a 120 m television transmitter tower to the ground. The wire makes a 60° angle with the ground. Find the length of the guy wire.

6. An airplane climbs at an angle of 30° with the ground. Find the ground distance the plane travels as it moves 2500 m through the air. Give your answer to the nearest 100 m.

7. A lighthouse operator is 25 m above sea level. He spots a sailboat in the distance. The angle of depression of the sighting is 60°. How far is the boat from the base of the lighthouse?

8. A kite is hovering in strong winds, 10 m vertically above the ground. It is being held in place by a taut 12-m length of rope from the kite to the ground. Find the angle (to the nearest degree) that the rope makes with the ground

9. The angle of depression from the top of a cliff to a boat sailing 100 m offshore is 30°. Calculate thheight of the cliff, correct to the nearest metre?

10. A circus artist is climbing a 20 m long rope, which is tightly stretched and tied from the top of a vertical pole to the ground. Find the height of the pole if the angle made by the rope with the ground level is 30º ?