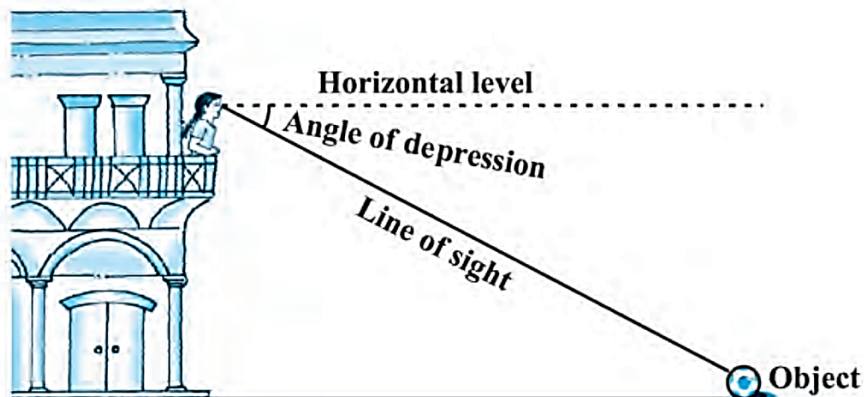
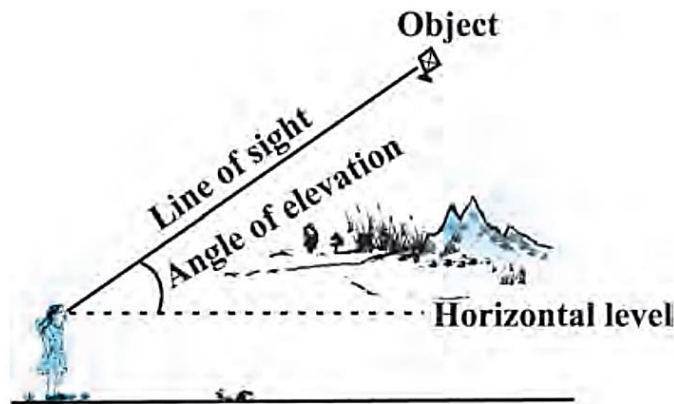
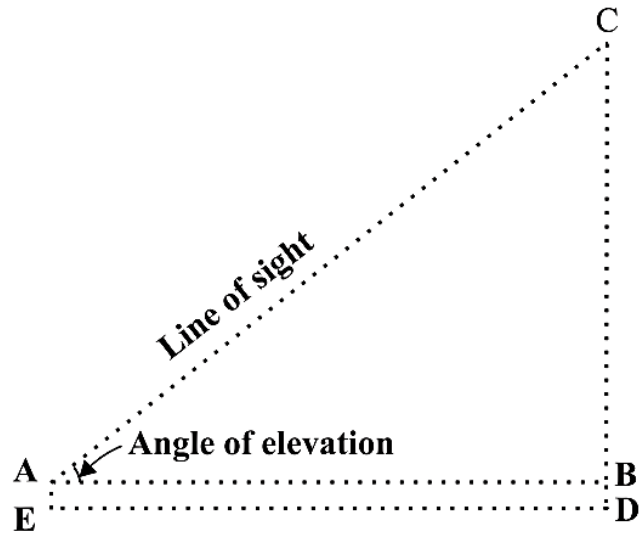
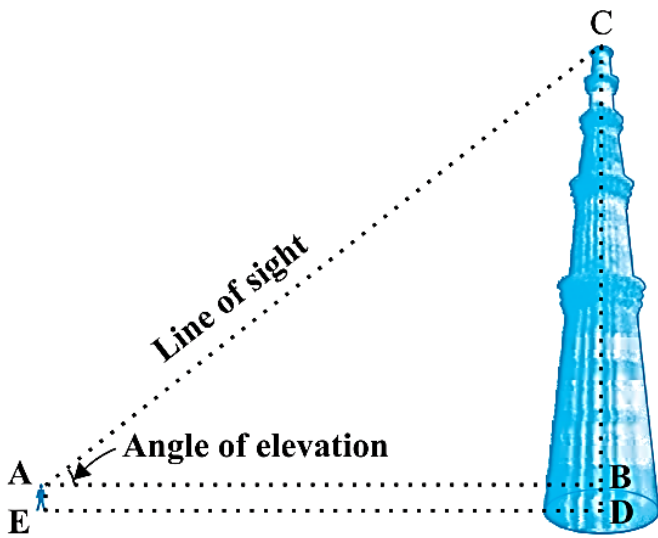


# Yakeen NEET 2.0 (2026)

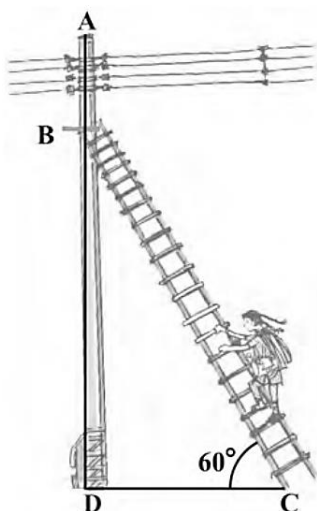
## KPP-03 Physics by Saleem Sir Basic Maths and Calculus (Mathematical Tools)

इस KPP का उद्देश्य (Purpose) आपकी language problem को सुधारना है। बहुत ही patience से solve करे हो सकता है कुछ questions ना बने। Don't panic

Use this:

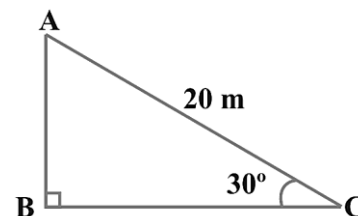


1. A tower stands vertically on the ground. From a point on the ground, which is 15 m away from the foot of the tower, the angle of elevation of the top of the tower is found to be  $60^\circ$ . Find the height of the tower.
2. An electrician has to repair an electric fault on a pole of height 5 m. She needs to reach a point 1.3m below the top of the pole to undertake the repair work (see Fig.). What should be the length of the ladder that she should use which, when inclined at an angle of  $60^\circ$  to the horizontal, would enable her to reach the required position? Also, how far from the foot of the pole should she place the foot of the ladder? (You may take  $\sqrt{3} = 1.73$ )



3. An observer 1.5 m tall is 28.5 m away from a chimney. The angle of elevation of the top of the chimney from her eyes is  $45^\circ$ . What is the height of the chimney?
4. From a point P on the ground the angle of elevation of the top of a 10 m tall building is  $30^\circ$ . A flag is hoisted at the top of the building and the angle of elevation of the top of the flagstaff from P is  $45^\circ$ . Find the length of the flagstaff and the distance of the building from the point P (You may take  $\sqrt{3} = 1.732$ )
5. The shadow of a tower standing on a level ground is found to be 40 m longer when the Sun's altitude is  $30^\circ$  than when it is  $60^\circ$ . Find the height of the tower.

6. The angles of depression of the top and the bottom of an 8 m tall building from the top of a multi-storeyed building are  $30^\circ$  and  $45^\circ$ , respectively. Find the height of the multi-storeyed building and the distance between the two buildings.
7. From a point on a bridge across a river, the angles of depression of the banks on opposite sides of the river are  $30^\circ$  and  $45^\circ$ , respectively. If the bridge is at a height of 3 m from the banks, find the width of the river.
8. 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  $30^\circ$  (see Fig.).



9. A tree breaks due to storm and the broken part bends so that the top of the tree touches the ground making an angle  $30^\circ$  with it. The distance between the foot of the tree to the point where the top touches the ground is 8 m. Find the height of the tree.
10. A contractor plans to install two slides for the children to play in a park. For the children below the age of 5 years, she prefers to have a slide whose top is at a height of 1.5 m, and is inclined at an angle of  $30^\circ$  to the ground, whereas for elder children, she wants to have a steep slide at a height of 3m, and inclined at an angle of  $60^\circ$  to the ground. What should be the length of the slide in each case?

11. The angle of elevation of the top of a tower from a point on the ground, which is 30 m away from the foot of the tower, is  $30^\circ$ . Find the height of the tower.
12. A kite is flying at a height of 60 m above the ground. The string attached to the kite is temporarily tied to a point on the ground. The inclination of the string with the ground is  $60^\circ$ . Find the length of the string, assuming that there is no slack in the string.
13. A 1.5 m tall boy is standing at some distance from a 30 m tall building. The angle of elevation from his eyes to the top of the building increases from  $30^\circ$  to  $60^\circ$  as he walks towards the building. Find the distance he walked towards the building.
14. From a point on the ground, the angles of elevation of the bottom and the top of a transmission tower fixed at the top of a 20 m high building are  $45^\circ$  and  $60^\circ$  respectively. Find the height of the tower.
15. A statue, 1.6 m tall, stands on the top of a pedestal. From a point on the ground, the angle of elevation of the top of the statue is  $60^\circ$  and from the same point the angle of elevation of the top of the pedestal is  $45^\circ$ . Find the height of the pedestal.

## Answer Key

- |                            |                              |
|----------------------------|------------------------------|
| 1. $15\sqrt{3}\text{m}$    | 9. 4.62 m                    |
| 2. 2.14 m                  | 10. 3.46                     |
| 3. 30 m                    | 11. $10\sqrt{3}\text{ m}$    |
| 4. 7.32 m                  | 12. $40\sqrt{3}\text{m}$     |
| 5. $20\sqrt{3}\text{m}$    | 13. $19\sqrt{3}\text{m}$     |
| 6. $4(3+\sqrt{3})\text{m}$ | 14. $20(\sqrt{3}-1)\text{m}$ |
| 7. $3(\sqrt{3}+1)\text{m}$ | 15. $0.8(\sqrt{3}+1)$        |
| 8. 10 m                    |                              |



PW Web/App - <https://smart.link/7wwosivoicgd4>

Library- <https://smart.link/sdfez8ejd80if>