

CHAPTER-9 | SOME APPLICATIONS OF TRIGONOMETRY

QUIZ
PART-01

1. The line drawn from the observer's eye to the point viewed is:
A. Horizontal level
B. Angle of depression
C. Line of sight
D. None of these (C)

Explanation: The line of sight is the line from the observer's eye to the point viewed.

2. The angle formed by the line of sight when the point is above the horizontal is called:
A. Angle of depression
B. Angle of elevation
C. Line of sight
D. None of these (B)

Explanation: When the point is above the horizontal level, the angle is called the angle of elevation.

3. The angle formed by the line of sight when the point is below the horizontal is:
A. Angle of depression
B. Angle of elevation
C. Line of sight
D. None of these (A)

Explanation: When the point is below the horizontal level, the angle is called the angle of depression.

4. A pole of height 6 m casts a shadow of $2\sqrt{3}$ m. The sun's elevation is:
A. 60° B. 45°
C. 120° D. 90° (A)

Explanation: Using $\tan\theta = \frac{6}{2\sqrt{3}} = \sqrt{3}$, we find $\theta = 60^\circ$.

5. The distance from a point on the ground to the foot of a tower is $\frac{\text{height}}{\sqrt{3}}$. The angle of elevation is:
A. 30° B. 45°
C. 60° D. 90° (A)

Explanation: Using the tangent formula, $\tan 30^\circ = \frac{\text{height}}{\text{distance}}$, the distance is $\frac{\text{height}}{\sqrt{3}}$

6. The height of a tower is h , and the angle of elevation is 30° . The distance from the observer to the tower is:
A. h
B. $\frac{h}{\sqrt{3}}$
C. $h\sqrt{3}$
D. h (B)

Explanation: Using $\tan 30^\circ = \frac{h}{\text{distance}}$, the distance is $\frac{h}{\sqrt{3}}$

7. A person 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° . The height of the chimney is:
A. 28.5 m B. 30 m
C. 31.5 m D. 32.5 m (C)

Explanation: Using $\tan 45^\circ = \frac{\text{height of chimney} - 1.5}{28.5}$, the height of the chimney is 31.5 m.

8. An observer 1.5 m tall is 28.5 m away from a chimney. The angle of elevation is 45° . The height of the chimney is:
A. 28.5 m B. 30 m
C. 31.5 m D. 32.5 m (C)

Explanation: The height is calculated as 31.5 m using the tangent formula.

9. If the ratio of the length of a pole and its shadow is $1 : \sqrt{3}$, the angle of elevation of the sun is:
A. 120° B. 45°
C. 30° D. 90° (C)

Explanation: The ratio corresponds to the tangent of the angle, giving $\theta = 30^\circ$.

10. If a pole is 6 m high and casts a shadow of 2 m, the angle of elevation of the sun is:
A. 45° B. 60°
C. 30° D. 90° (B)

Explanation: Using $\tan \theta = \frac{6}{2} = 3$, $\theta = 60^\circ$