

CHAPTER-9 | SOME APPLICATIONS OF TRIGONOMETRY

QUIZ
PART-03

1. A 1.5 m tall boy is standing at some distance from a 30 m tall building. The angle of elevation changes from 30° to 60° as he walks. Find the distance he walked.

A. 10 m B. 12 m
C. 15 m D. 20 m (B)

Explanation: Distance walked = 12 m, calculated using trigonometric differences for both angles.

2. From a point on the ground, the angles of elevation of the bottom and top of a transmission tower fixed at the top of a 20 m building are 45° and 60° . Find the tower height.

A. 25 m B. 30 m
C. 35 m D. 40 m (C)

Explanation: The height of the tower is 35 m using tangent formulas for both angles.

3. A statue 1.6 m tall stands on a pedestal. The angle of elevation of the top of the statue is 60° and of the pedestal is 45° . Find the pedestal height.

A. 5 m B. 6 m
C. 7 m D. 8 m (B)

Explanation: Height of the pedestal = 6 m, using elevation angle values.

4. The angle of elevation to the top of a building is 30° and to the top of the tower is 60° . The tower is 50 m high. Find the height of the building.

A. 30 m B. 40 m
C. 50 m D. 60 m (B)

Explanation: The height of the building is 40 m, calculated using trigonometric ratios.

5. Two poles of equal height are 80 m apart. From a point between them, the angles of elevation are 60° and 30° . Find the height of the poles.

A. 40 m B. 50 m
C. 60 m D. 70 m (A)

Explanation: The height of the poles is 40 m, and the distances from the point are 50 m and 30 m.

6. A slide with a height of 3 m is inclined at 60° . What is the length of the slide?

A. $3 / \sin 60^\circ$
B. $3 \times \cos 60^\circ$
C. $3 \times \sin 60^\circ$
D. $3 \times \tan 60^\circ$ (A)

Explanation: Length = $3 / \sin 60^\circ = 2\sqrt{3}$ m.

7. A kite is flying at 60 m, and the string makes an angle of 60° . Find the string length.

A. 60 m
B. $60 / \sin 60^\circ$
C. $60 / \cos 60^\circ$
D. $60 / \tan 60^\circ$ (B)

Explanation: Length = $60 / \sin 60^\circ = 120$ m.

8. A 1.5 m tall boy stands at a distance from a 30 m tall building. The angle of elevation changes from 30° to 60° . Find the distance he walked.

A. 10 m
B. 12 m
C. 15 m
D. 20 m (B)

Explanation: Distance = 12 m, calculated using tangent values for both angles.

9. The height of a tower is 50 m, and the angle of elevation of the top from a point on the ground is 30° . Find the distance from the point to the tower.

A. $50 \times \tan 30^\circ$
B. $50 \times \cot 30^\circ$
C. $50 \times \sin 30^\circ$
D. $50 \times \cos 30^\circ$ (A)

Explanation: Distance = $50 \times \tan 30^\circ = 50 \times 1/\sqrt{3}$.

10. The height of a slide is 1.5 m, and the angle of inclination is 30° . What is the length of the slide?

A. $1.5 / \sin 30^\circ$
B. $1.5 \times \sin 30^\circ$
C. $1.5 \times \cos 30^\circ$
D. $1.5 \times \tan 30^\circ$ (A)

Explanation: Length = $1.5 / \sin 30^\circ = 3$ m.