

CHAPTER-9 | SOME APPLICATIONS OF TRIGONOMETRY

QUIZ
PART-04

1. A TV tower is seen at 60° from one point and 30° from another point 20 m away. Find the height of the tower.

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

Explanation: Height = 50 m, calculated using trigonometric ratios for both angles.

2. From a 7 m high building, the angle of elevation to a tower is 60° and the angle of depression to its foot is 45° . Find the tower height.

- A. 13 m B. 14 m
C. 15 m D. 16 m (A)

Explanation: Height = 13 m, using tangent formulas for both angles.

3. A 75 m lighthouse sees ships at 30° and 45° angles. Find the distance between ships.

- A. 100 m B. 150 m
C. 200 m D. 250 m (B)

Explanation: Distance = 150 m, calculated using the angles and trigonometric formulas.

4. A 1.2 m tall girl sees a balloon at 88.2 m. The angle of elevation changes from 60° to 30° . Find the distance the balloon traveled.

- A. 100 m B. 120 m
C. 150 m D. 180 m (C)

Explanation: Distance = 150 m, found using angle change and trigonometric calculations.

5. A man at a tower observes a car at 30° depression initially, and 60° after 6 seconds. How much time did it take for the car to reach the tower?

- A. 3 seconds B. 6 seconds
C. 10 seconds D. 12 seconds (B)

Explanation: Time = 6 seconds, based on the change in depression angle.

6. A 10 m tower casts a shadow at 45° . What is its height if the angle changes to 60° ?

- A. 12 m B. 15 m
C. 16 m D. 18 m (C)

Explanation: Height = 16 m, calculated using trigonometric ratios.

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

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

Explanation: Building height = 40 m, calculated using angles of elevation.

8. Two poles stand 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: Height = 40 m, using angles of elevation and distance formulas.

9. A kite flies at 60 m with a 60° inclination. 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.

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

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

Explanation: Pedestal height = 6 m, calculated using the angles of elevation.