MCQS on Chapter 9: Some Applications of Trigonometry for Class 10

1. The line drawn from the eye of an observer to the point in the object viewed by the observer is called:
(a) Angle of elevation
(b) Angle of depression
(c) Line of sight
(d) Horizontal line
2. The angle formed by the line of sight with the horizontal when the point being viewed is BELOW the horizontal level is called:
(a) Angle of elevation
(b) Angle of depression
(c) Line of sight
(d) Angle of refraction
3. A tower stands vertically on the ground. From a point 15 m away from its foot, the angle of elevation of the top is 60°. The height of the tower is:
(a) $15\sqrt{3}$ m
(b) $10\sqrt{3}$ m
(c) $15/\sqrt{3}$ m
(d) $5\sqrt{3}$ m
4. The angle of elevation of the top of a building from a point 30 m away from its foot is 30°. The height of the building is:
(a) 10 m
(b) $30/\sqrt{3}$ m = $10\sqrt{3}$ m
(c) 30 m
(d) $\sqrt{3}/10$ m
5. A kite is flying at a height of 60 m above the ground. The string makes an angle of 60° with the horizontal. The length of the string (assuming no slack) is:
(a) $64\sqrt{3}$ m
(b) $40\sqrt{3}$ m
(c) $60\sqrt{3}$ m
(d) $120/\sqrt{3}$ m

6. When the shadow of a pole h metres high is $\sqrt{3}h$ metres long, the angle of elevation of the Sun is:
(a) 30°
(b) 60°
(c) 45°
(d) 15°
7. 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°. The height of the chimney is:
(a) 28.5 m
(b) 27 m
(c) 30 m
(d) 31.5 m
8. A man at the top of a tower observes a car at a depression angle of 30°. After 6 seconds, the depression angle is 60°. The time taken by the car to reach the tower from the second position is:
(a) 6 seconds
(b) 4 seconds
(c) 3 seconds
(d) 2 seconds
9. From the top of a 7 m high building, the angle of elevation of the top of a cable tower is 60° and the angle of depression of its foot is 45°. The height of the tower is:
(a) 7 m
(b) $7\sqrt{3}$ m
(c) $7(\sqrt{3} + 1)$ m
(d) $7(\sqrt{3} - 1)$ m
10. The angles of depression of the top and bottom of an 8 m tall building from the top of a multi-storeyed building are 30° and 45°. The height of the multi-storeyed building is:
(a) $4(3 + \sqrt{3})$ m
(b) $8(3 + \sqrt{3})$ m
(c) $4(3 + \sqrt{3})$ m
(d) $4\sqrt{3}$ m

11. From a point P on the ground, the angle of elevation of the top of a 10 m building is 30°. A flag on the top has an elevation of 45° from P. The length of the flagstaff is approximately: (√3 = 1.732)
(a) 10 m
(b) 10(√3 − 1) m
(c) 7.32 m
(d) 10√3 m
12. Two poles of equal heights stand opposite each other on a road 80 m wide. From a point between them, angles of elevation are 60° and 30°. The height of each pole is:
(a) 10√3 m
(b) 22√3 m
(c) 20√3 m
(d) 40√3 m
13. A TV tower on a canal bank has an angle of elevation of 60° from directly opposite and 30° from a point 20 m away along the bank. The height of the tower is:
(a) 20 m
(b) 10√3 m
(c) 20√3 m
(d) 10 m

Answer key

1 - c, 2 - b, 3 - c, 4 - b, 5 - b, 6 - a, 7 - a, 8 - c, 9 - c, 10 - c, 11 - c, 12 - c, 13 - b