MCQs on Chapter 8: Introduction to Trigonometry for Class 10

1. In △ABC, right-angled at B, AB = 24 cm, BC = 7 cm. The value of tan C is:
(a) 12/7
(b) 24/7
(c) 7/24
(d) 20/7
2. If sin A = 1/3, the value of cos A is:
(a) 1/3
(b) √8/3
(c) 2√2/3
(d) 1/√8
3. Given 15 cot A = 8, the value of sin A is:
(a) 8/17
(b) 15/17
(c) 8/15
(d) 17/15
4. If sec θ = 13/12, the value of tan θ is:
(a) 12/13
(b) 5/12
(c) 5/13
(d) 13/5
5. The value of tan 60° / cot 30° is:
(a) 0
(b) 1
(c) √3
(d) 3
6. The value of (sin 45° + cos 45°) is:
(a) 1/√2
(b) √2
(c) √3/2
(d) 1
7. In △ACB right-angled at C, AB = 29, BC = 21. $\cos^2\theta - \sin^2\theta$ (where θ = ∠ABC) equals:

(a) 1
(b) 0
(c) 41/841
(d) 400/841

8. sin(90° − A) and cos A are:
(a) Different values
(b) Equal
(c) Reciprocals
(d) None of the above

9. The value of cosec [75° + θ] − sec [15° − θ] − tan [55° + θ] + cot [35° − θ] is:
(a) −1
(b) 0
(c) 1
(d) 3/2

10. In a right triangle ABC, right-angled at B, if tan A = 1, then 2 sin A · cos A equals:
(a) 1/2
(b) √2
(c) 1/√2
(d) 1

11. Which of the following cannot be the value of sin θ for any angle θ?
(a) 1
(b) 0.99
(c) 4/3
(d) 1/√2

12. In △PQR, right-angled at Q, PQ = 3 cm and PR = 6 cm. ∠PRQ equals:
(a) 45°
(b) 60°
(c) 30°
(d) 90°

13. (1 + tan²A) / (1 + cot²A) equals:
(a) sec²A
(b) −1
(c) cot²A
(d) tan²A

14. $(1 + \tan\theta + \sec\theta)(1 + \cot\theta - \operatorname{cosec}\theta)$ equals:
(a) 0
(b) 1
(c) 2
(d) −1
15. In $\triangle ABC$, right-angled at B, AB = 5 cm and $\angle ACB = 30°$. The length of AC is:
(a) $5\sqrt{3}$ cm
(b) 10 cm
(c) $5\sqrt{2}$ cm
(d) 5 cm

Answer Key

1 - b, 2 - c, 3 - b, 4 - b, 5 - b, 6 - b, 7 - c, 8 - b, 9 - b, 10 - d, 11 - c, 12 - c, 13 - d, 14 - 2, 15 - b