

EduSahara™ Learning Center Assignment**Grade : Class X, ICSE****Chapter : Trigonometrical Identities****Name : Trigonometric Expression Evaluation**

1. $\cos 30^\circ \sin 45^\circ \operatorname{cosec} 60^\circ - \sin 90^\circ \cos 0^\circ \tan 0^\circ =$

(i) $\frac{1}{6} \sqrt{16}$ (ii) $\frac{1}{6} \sqrt{18}$ (iii) $\frac{1}{6} \sqrt{20}$

(iv) 3 (v) $\frac{1}{6} \sqrt[4]{18}$

2. $\frac{\sec 45^\circ \operatorname{cosec} 45^\circ \cot 45^\circ - \sin 60^\circ \operatorname{cosec} 90^\circ \tan 60^\circ}{\sec 60^\circ \tan 30^\circ \sec 30^\circ - \sin 60^\circ \cot 45^\circ \tan 45^\circ} =$

(i) $(\frac{24}{37} + \frac{9}{37} \sqrt{3})$ (ii) $(\frac{22}{37} + \frac{9}{37} \sqrt{3})$ (iii) $(\frac{26}{37} + \frac{9}{37} \sqrt{3})$

(iv) $(\frac{24}{37} + \frac{27}{37})$ (v) $(\frac{24}{37} + \frac{9}{37} \sqrt[4]{3})$

3. $\frac{\sin 71^\circ}{\cos 19^\circ} =$

(i) -1 (ii) 1 (iii) $\tan 19^\circ$ (iv) 0 (v) $\tan 71^\circ$

4. $\frac{\cos 56^\circ}{\sin 34^\circ} =$

(i) $\tan 34^\circ$ (ii) -1 (iii) 0 (iv) 1 (v) $\tan 56^\circ$

5. $\frac{\tan 73^\circ}{\cot 17^\circ} =$

(i) $\tan 17^\circ$ (ii) 1 (iii) -1 (iv) 0 (v) $\tan 73^\circ$

6. $\frac{\cot 48^\circ}{\tan 42^\circ} =$

(i) 0 (ii) $\tan 42^\circ$ (iii) $\tan 48^\circ$ (iv) -1 (v) 1

7. $\frac{\sec 26^\circ}{\operatorname{cosec} 64^\circ} =$

(i) $\tan 64^\circ$ (ii) 1 (iii) $\tan 26^\circ$ (iv) 0 (v) -1

8. $\frac{\operatorname{cosec} 32^\circ}{\sec 58^\circ} =$

(i) (ii) (iii) $\tan$ (iv) $\tan$ (v)

0 -1 58° 32° 1

9. $\frac{\sin 7^\circ \cos 25^\circ}{\cos 83^\circ \sin 65^\circ} =$

(i) -1 (ii) $\tan 7^\circ$ (iii) $\tan 25^\circ$ (iv) 0 (v) 1

10. $\frac{\cos 79^\circ \sin 85^\circ}{\sin 11^\circ \cos 5^\circ} =$

(i) $\tan 79^\circ$ (ii) $\tan 85^\circ$ (iii) 0 (iv) -1 (v) 1

11. $\frac{\tan 6^\circ \cot 59^\circ}{\cot 84^\circ \tan 31^\circ} =$

(i) 1 (ii) $\tan 59^\circ$ (iii) -1 (iv) 0 (v) $\tan 6^\circ$

12. $\frac{\cot 3^\circ \tan 53^\circ}{\tan 87^\circ \cot 37^\circ} =$

(i) $\tan 53^\circ$ (ii) 1 (iii) 0 (iv) -1 (v) $\tan 3^\circ$

13. $\frac{\sec 76^\circ \operatorname{cosec} 53^\circ}{\operatorname{cosec} 14^\circ \sec 37^\circ} =$

(i) $\tan 53^\circ$ (ii) 1 (iii) 0 (iv) $\tan 76^\circ$ (v) -1

14. $\frac{\operatorname{cosec} 40^\circ \sec 31^\circ}{\sec 50^\circ \operatorname{cosec} 59^\circ} =$

(i) 0 (ii) -1 (iii) $\tan 31^\circ$ (iv) $\tan 40^\circ$ (v) 1

15. $\sin 53^\circ - \cos 37^\circ =$

(i) $2 \sin 37^\circ$ (ii) -1 (iii) 0 (iv) $2 \sin 53^\circ$ (v) 1

16. $\cos 65^\circ - \sin 25^\circ =$

(i) $2 \sin 65^\circ$ (ii) 1 (iii) 0 (iv) $2 \sin 25^\circ$ (v) -1

17. $\tan 76^\circ - \cot 14^\circ =$

(i) -1 (ii) $2 \sin 76^\circ$ (iii) $2 \sin 14^\circ$ (iv) 0 (v) 1

18. $\cot 57^\circ - \tan 33^\circ =$

(i) $2 \sin 57^\circ$ (ii) 1 (iii) 0 (iv) $2 \sin 33^\circ$ (v) -1

19. $\sec 81^\circ - \operatorname{cosec} 9^\circ =$

(i) 0 (ii) -1 (iii) $2 \sin 9^\circ$ (iv) 1 (v) $2 \sin 81^\circ$

20. $\operatorname{cosec} 48^\circ - \sec 42^\circ =$

$\sin$

$\sin$

- (i) 2^{-42° (ii) 1 (iii) 0 (iv) 2^{-48° (v) -1
-

21. $\sin 55^\circ \cos 65^\circ - \cos 35^\circ \sin 25^\circ =$

- (i) -1 (ii) 0 (iii) $2 \sin 65^\circ$ (iv) 1 (v) $2 \sin 55^\circ$
-

22. $\cos 4^\circ \sin 34^\circ - \sin 86^\circ \cos 56^\circ =$

- (i) $2 \sin 34^\circ$ (ii) $2 \sin 4^\circ$ (iii) -1 (iv) 0 (v) 1
-

23. $\tan 79^\circ \cot 27^\circ - \cot 11^\circ \tan 63^\circ =$

- (i) $2 \sin 79^\circ$ (ii) 1 (iii) $2 \sin 27^\circ$ (iv) -1 (v) 0
-

24. $\cot 11^\circ \tan 74^\circ - \tan 79^\circ \cot 16^\circ =$

- (i) -1 (ii) $2 \sin 11^\circ$ (iii) $2 \sin 74^\circ$ (iv) 1 (v) 0
-

25. $\sec 80^\circ \operatorname{cosec} 88^\circ - \operatorname{cosec} 10^\circ \sec 2^\circ =$

- (i) 0 (ii) -1 (iii) $2 \sin 80^\circ$ (iv) 1 (v) $2 \sin 88^\circ$
-

26. $\operatorname{cosec} 3^\circ \sec 57^\circ - \sec 87^\circ \operatorname{cosec} 33^\circ =$

- (i) -1 (ii) $2 \sin 3^\circ$ (iii) $2 \sin 57^\circ$ (iv) 1 (v) 0
-

27. $\sin 60^\circ \cos 30^\circ + \cos 60^\circ \sin 30^\circ =$

- (i) 4 (ii) $\frac{1}{1}$ (iii) (-2) (iv) 2 (v) 0
-

28. Find the value of $\tan 5^\circ \tan 25^\circ \tan 85^\circ \tan 65^\circ$

- (i) undefined (ii) 1 (iii) -1 (iv) 2 (v) 0
-

29. Find the value of $\cot^2 65^\circ \cot^2 25^\circ$

- (i) 1 (ii) undefined (iii) 2 (iv) -1 (v) 0
-

30. $\frac{\sin^2 30^\circ + \sin^2 60^\circ}{\cos^2 55^\circ + \cos^2 35^\circ} =$

- (i) 2 (ii) 1 (iii) -1 (iv) 0 (v) undefined
-

31. $\frac{\sin 20^\circ \cos 70^\circ + \cos 20^\circ \sin 70^\circ}{\sin 30^\circ \cos 60^\circ + \cos 30^\circ \sin 60^\circ} =$

- (i) -1 (ii) 2 (iii) 1 (iv) 0 (v) undefined
-

32. $\sin 76^\circ + \cos 78^\circ =$

- (i) $\frac{\sin 76^\circ}{\cos} + \frac{\sin 78^\circ}{\sin}$

(ii) $\sin 14^\circ + \sin 12^\circ$

(iii) $\cos 76^\circ + \sin 78^\circ$

(iv) $\cos 14^\circ + \cos 12^\circ$

33. $\cos 29^\circ + \sin 57^\circ =$

(i) $\sin 61^\circ + \cos 33^\circ$

(ii) $\sin 29^\circ + \cos 57^\circ$

(iii) $\cos 29^\circ + \cos 57^\circ$

(iv) $\sin 61^\circ + \sin 33^\circ$

34. $\tan 26^\circ + \cot 55^\circ =$

(i) $\cot 64^\circ + \tan 35^\circ$

(ii) $\tan 26^\circ + \tan 55^\circ$

(iii) $\cot 64^\circ + \cot 35^\circ$

(iv) $\cot 26^\circ + \tan 55^\circ$

35. $\cot 78^\circ + \tan 59^\circ =$

(i) $\tan 78^\circ + \cot 59^\circ$

(ii) $\tan 12^\circ + \tan 31^\circ$

(iii) $\tan 12^\circ + \cot 31^\circ$

(iv) $\cot 78^\circ + \cot 59^\circ$

36. $\sec 77^\circ + \operatorname{cosec} 74^\circ =$

(i) $\operatorname{cosec} 13^\circ + \operatorname{cosec} 16^\circ$

(ii) $\operatorname{cosec} 77^\circ + \sec 74^\circ$

(iii) $\sec 77^\circ + \sec 74^\circ$

(iv) $\operatorname{cosec} 13^\circ + \sec 16^\circ$

37. $\operatorname{cosec} 60^\circ + \sec 67^\circ =$

(i) $\sec 30^\circ + \operatorname{cosec} 23^\circ$

(ii) $\operatorname{cosec} 60^\circ + \operatorname{cosec} 67^\circ$

(iii) $\sec 60^\circ + \operatorname{cosec} 67^\circ$

(iv) $\sec 30^\circ + \sec 23^\circ$

Assignment Key

- 1) (ii)
- 2) (i)
- 3) (ii)
- 4) (iv)
- 5) (ii)
- 6) (v)
- 7) (ii)
- 8) (v)
- 9) (v)
- 10) (v)
- 11) (i)
- 12) (ii)
- 13) (ii)
- 14) (v)
- 15) (iii)
- 16) (iii)
- 17) (iv)
- 18) (iii)
- 19) (i)
- 20) (iii)
- 21) (ii)
- 22) (iv)
- 23) (v)
- 24) (v)
- 25) (i)
- 26) (v)
- 27) (ii)
- 28) (ii)
- 29) (i)
- 30) (ii)
- 31) (iii)
- 32) (ii)
- 33) (i)
- 34) (i)
- 35) (iii)
- 36) (iv)
- 37) (i)