EduSahara™ Assignment

Name : Trigonometric Expression Evaluation

Chapter : Trigonometry

Grade : SSC Grade X

1. If $\sin 2A = 2\sin A$, then A =

   (i) 90° (ii) 45° (iii) 60° (iv) 30° (v) 0°

2. If $\sin(H + I) = \frac{1}{2}\sqrt{3}$ and $\sin(H - I) = \frac{1}{2}$, find $H \& I$

   (i) H=47°,I=17° (ii) H=45°,I=15° (iii) H=43°,I=13° (iv) H=44°,I=14° (v) H=46°,I=16°

3. If $\tan(C + D) = \sqrt{3}$ and $\tan(C - D) = \sqrt{\frac{1}{3}}$, find $C \& D$

   (i) C=46°,D=16° (ii) C=45°,D=15° (iii) C=44°,D=14° (iv) C=43°,D=13° (v) C=47°,D=17°

4. $\sin 0° \cos 90° \operatorname{cosec} 90° - \sin 30° \operatorname{cosec} 30° \cot 45° =$

   (i) (−2) (ii) 2 (iii) (−4) (iv) (−1) (v) 0

5. $\frac{\cos 0° \cot 60° - \tan 45° \sec 0°}{\cos 30° \tan 0° + \sin 30° \sin 45°} =$

   (i) $(\frac{2}{3}\sqrt{6} - 2\sqrt{2})$ (ii) $(\frac{2}{3}\sqrt{9} - 2\sqrt{2})$ (iii) $(\frac{2}{3}\sqrt{3} - 2\sqrt{2})$ (iv) $(\frac{2}{3}\sqrt{6} - 2\sqrt{2})$ (v) $(\frac{2}{3}\sqrt{6} - 4)$

6. $\frac{\sin 2°}{\cos 88°} =$

   (i) tan 2° (ii) 0 (iii) tan 88° (iv) 1 (v) -1

7. $\frac{\cos 32°}{\sin 58°} =$

   (i) 1 (ii) 0 (iii) tan 32° (iv) -1 (v) tan 58°

8. $\frac{\tan 49°}{\cot 41°} =$

   (i) -1 (ii) tan 49° (iii) tan 41° (iv) 1 (v) 0

9. $\frac{\cot 76°}{\tan 14°} =$

   (i) 1 (ii) tan 14° (iii) 0 (iv) -1 (v) tan 76°

10. $\frac{\sec 20°}{\operatorname{cosec} 70°} =$

    (i) tan 70° (ii) 0 (iii) -1 (iv) tan 20° (v) 1

11. $\frac{\operatorname{cosec} 12°}{\sec 78°} =$

    (i) tan 12° (ii) 1 (iii) tan 78° (iv) -1 (v) 0

12. $\frac{\sin 45° \cos 62°}{\cos 45° \sin 28°} =$

(i) -1 (ii) 1 (iii) $\tan 45°$ (iv) 0 (v) $\tan 62°$

13. $\frac{\cos 9° \sin 11°}{\sin 81° \cos 79°} =$

(i) 0 (ii) 1 (iii) -1 (iv) $\tan 11°$ (v) $\tan 9°$

14. $\frac{\tan 34° \cot 78°}{\cot 56° \tan 12°} =$

(i) $\tan 78°$ (ii) $\tan 34°$ (iii) 0 (iv) -1 (v) 1

15. $\frac{\cot 13° \tan 86°}{\tan 77° \cot 4°} =$

(i) -1 (ii) $\tan 13°$ (iii) 1 (iv) 0 (v) $\tan 86°$

16. $\frac{\sec 61° \operatorname{cosec} 15°}{\operatorname{cosec} 29° \sec 75°} =$

(i) 0 (ii) -1 (iii) $\tan 61°$ (iv) $\tan 15°$ (v) 1

17. $\frac{\operatorname{cosec} 49° \sec 45°}{\sec 41° \operatorname{cosec} 45°} =$

(i) $\tan 49°$ (ii) 1 (iii) $\tan 45°$ (iv) -1 (v) 0

18. $\sin 31° - \cos 59° =$

(i) 0 (ii) -1 (iii) $2\sin 31°$ (iv) $2\sin 59°$ (v) 1

19. $\cos 56° - \sin 34° =$

(i) -1 (ii) $2\sin 34°$ (iii) 1 (iv) $2\sin 56°$ (v) 0

20. $\tan 40° - \cot 50° =$

(i) $2\sin 40°$ (ii) -1 (iii) $2\sin 50°$ (iv) 1 (v) 0

21. $\cot 47° - \tan 43° =$

(i) $2\sin 47°$ (ii) 1 (iii) 0 (iv) -1 (v) $2\sin 43°$

22. $\sec 70° - \operatorname{cosec} 20° =$

(i) $2\sin 20°$ (ii) 0 (iii) -1 (iv) $2\sin 70°$ (v) 1

23. $\operatorname{cosec} 29° - \sec 61° =$

(i) -1 (ii) $2\sin 61°$ (iii) 0 (iv) 1 (v) $2\sin 29°$

24. $\sin 84° \cos 13° - \cos 6° \sin 77° =$

(i) 0 (ii) $2\sin 13°$ (iii) $2\sin 84°$ (iv) -1 (v) 1

25. $\cos 42° \sin 5° - \sin 48° \cos 85° =$

(i) 0 (ii) -1 (iii) $2\sin 42°$ (iv) 1 (v) $2\sin 5°$

26. $\tan 3° \cot 36° - \cot 87° \tan 54° =$

(i) 0 (ii) $2\sin 36°$ (iii) $2\sin 3°$ (iv) -1 (v) 1

27. $\cot 51° \tan 12° - \tan 39° \cot 78° =$

(i) 1 (ii) $2\sin 51°$ (iii) $2\sin 12°$ (iv) 0 (v) -1

28. $\sec 84° \operatorname{cosec} 10° - \operatorname{cosec} 6° \sec 80° =$

(i) $2\sin 84°$ (ii) 1 (iii) -1 (iv) 0 (v) $2\sin 10°$

29. $\operatorname{cosec} 25° \sec 10° - \sec 65° \operatorname{cosec} 80° =$

(i) 0 (ii) 1 (iii) $2\sin 10°$ (iv) -1 (v) $2\sin 25°$

30. $\sin 30° \cos 0° + \cos 30° \sin 0° =$

(i) $(-\frac{1}{2})$ (ii) $\frac{3}{2}$ (iii) $\frac{1}{2}$ (iv) 1 (v) $\frac{1}{4}$

31. In $\triangle LMN$, right angled at M, if $\tan L = \frac{5}{6}$, find $\sin L \cos N + \cos L \sin N$

(i) $\frac{1}{6}\sqrt{61}$ (ii) 1 (iii) $\frac{1}{5}\sqrt{61}$ (iv) $\frac{5}{61}\sqrt{61}$ (v) $\frac{6}{61}\sqrt{61}$

32. In $\triangle BCD$, right angled at C, if $\tan B = \frac{1}{3}$, find $\cos B \cos D - \sin B \sin D$

(i) $\frac{3}{10}\sqrt{10}$ (ii) $\frac{1}{3}\sqrt{10}$ (iii) 0 (iv) $\frac{1}{10}\sqrt{10}$ (v) $\sqrt{10}$

33. Find the value of $\tan 5° \tan 40° \tan 85° \tan 50°$

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

34. Find the value of $\cot 65° \cot 70° \cot 25° \cot 20°$

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

35. $\frac{\sin^2 25° + \sin^2 65°}{\cos^2 55° + \cos^2 35°} =$

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

36. $\frac{\sin 65° \cos 25° + \cos 65° \sin 25°}{\sin 25° \cos 65° + \cos 25° \sin 65°} =$

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

37. $\sin 73° + \cos 38° =$

(i) $\cos 17° + \sin 52°$ (ii) $\sin 73° + \sin 38°$ (iii) $\cos 73° + \sin 38°$ (iv) $\cos 17° + \cos 52°$

38. $\cos 38° + \sin 76° =$

(i) $\sin 38° + \cos 76°$ (ii) $\sin 52° + \cos 14°$ (iii) $\sin 52° + \sin 14°$ (iv) $\cos 38° + \cos 76°$

39. $\tan 33° + \cot 78° =$

(i) $\cot 57° + \tan 12°$ (ii) $\cot 33° + \tan 78°$ (iii) $\tan 33° + \tan 78°$ (iv) $\cot 57° + \cot 12°$

40. $\cot 74° + \tan 17° =$

(i) $\tan 16° + \tan 73°$ (ii) $\tan 16° + \cot 73°$ (iii) $\cot 74° + \cot 17°$ (iv) $\tan 74° + \cot 17°$

41. $\sec 17° + \text{cosec}\, 24° =$

(i) $\text{cosec}\, 73° + \text{cosec}\, 66°$ (ii) $\sec 17° + \sec 24°$ (iii) $\text{cosec}\, 17° + \sec 24°$ (iv) $\text{cosec}\, 73° + \sec 66°$

42. $\text{cosec}\, 46° + \sec 35° =$

(i) $\sec 44° + \sec 55°$ (ii) $\sec 44° + \text{cosec}\, 55°$ (iii) $\text{cosec}\, 46° + \text{cosec}\, 35°$ (iv) $\sec 46° + \text{cosec}\, 35°$

Assignment Key

1) (v)	2) (ii)	3) (ii)	4) (iv)	5) (iv)	6) (iv)
7) (i)	8) (iv)	9) (i)	10) (v)	11) (ii)	12) (ii)
13) (ii)	14) (v)	15) (iii)	16) (v)	17) (ii)	18) (i)
19) (v)	20) (v)	21) (iii)	22) (ii)	23) (iii)	24) (i)
25) (i)	26) (i)	27) (iv)	28) (iv)	29) (i)	30) (iii)
31) (ii)	32) (iii)	33) (iii)	34) (iii)	35) (ii)	36) (iii)
37) (i)	38) (ii)	39) (i)	40) (ii)	41) (iv)	42) (ii)