

TRIGONOMETRY (SHEET-01)

त्रिकोणमिति

UPDATED

CLASS ROOM SHEET

FOR ALL EXAMS

BY ADITYA RANJAN

Maths By Aditya Ranjan

Rankers Gurukul

PDF की विशेषताएं
INDIA में पहली बार

- UPDATED CONTENT
- TYPE WISE
- LEVEL WISE
- BILINGUAL
- ERROR FREE

MATHS SPECIAL BATCH
में Enroll करने के लिए

8506003399

9289079800

MATHS EXPERT

DOWNLOAD

RG VIKRAMJEET APP



TRIGONOMETRY / त्रिकोणमिति

(CLASSROOM SHEET-01)

Questions Based on Basic Trigonometric Ratios

1. If $\tan A = \frac{4}{3}$, $0 \leq A \leq 90^\circ$, then find the value of $\sin A$.

यदि $\tan A = \frac{4}{3}$, $0 \leq A \leq 90^\circ$, है, तो $\sin A$ का मान क्या होगा?

SSC CPO 03/10/2023 (Shift-01)

- (a) $\frac{4}{5}$ (b) $\frac{3}{5}$
(c) $\frac{3}{4}$ (d) $\frac{4}{3}$

2. If $\sin \theta = \left(\frac{9}{41}\right)$, $0^\circ < \theta < 90^\circ$ then what is the value of $\cot \theta$?

यदि $\sin \theta = \left(\frac{9}{41}\right)$, $0^\circ < \theta < 90^\circ$ तो $\cot \theta$ का मान क्या होगा?

SSC CGL MAINS (08/08/2022 (Shift-01)

- (a) $\frac{40}{9}$ (b) $\frac{35}{8}$
(c) $\frac{39}{9}$ (d) $\frac{47}{8}$

3. If $\tan A = \frac{2}{5}$ find the value of $\frac{\sec^2 A}{\operatorname{cosec}^2 A}$.

यदि $\tan A = \frac{2}{5}$ है, तो $\frac{\sec^2 A}{\operatorname{cosec}^2 A}$ का मान ज्ञात कीजिए।

SSC CPO 03/10/2023 (Shift-3)

- (a) $\frac{3}{5}$ (b) $\frac{4}{25}$
(c) $\frac{2}{5}$ (d) $\frac{9}{25}$

4. If $\sin \beta = \frac{1}{3}$, $(\sec \beta - \tan \beta)^2$ is equal to:

यदि $\sin \beta = \frac{1}{3}$ है, तो $(\sec \beta - \tan \beta)^2$ किसके बराबर है?

SSC CPO 05/10/2023 (Shift-01)

- (a) $\frac{1}{3}$ (b) $\frac{1}{2}$
(c) $\frac{2}{3}$ (d) $\frac{3}{4}$

5. If $\cos \theta = \frac{\sqrt{3}}{2}$, then $\tan^2 \theta \cos^2 \theta = ?$

यदि $\cos \theta = \frac{\sqrt{3}}{2}$ है, तो $\tan^2 \theta \cos^2 \theta = ?$

SSC CGL 14/07/2023 (Shift-1)

- (a) $\frac{1}{\sqrt{3}}$ (b) $\frac{1}{4}$
(c) $\frac{1}{2}$ (d) $\sqrt{3}$

6. If $5\sin \theta - 4\cos \theta = 0$, $0^\circ < \theta < 90^\circ$, then the value of $\frac{5\sin \theta + 2\cos \theta}{5\sin \theta + 3\cos \theta}$ is:

यदि $5\sin \theta - 4\cos \theta = 0$, $0^\circ < \theta < 90^\circ$ है तो $\frac{5\sin \theta + 2\cos \theta}{5\sin \theta + 3\cos \theta}$ का मान ज्ञात कीजिए।

SSC CGL 13/04/2022 (Shift-02)

- (a) $\frac{4}{7}$ (b) $\frac{6}{7}$
(c) $\frac{2}{7}$ (d) $\frac{3}{7}$

7. $\tan \theta = \frac{3}{4}$, find the value of expression $\frac{1 + \sin \theta}{1 - \sin \theta}$:

यदि $\tan \theta = \frac{3}{4}$ अभिव्यक्ति $\frac{1 + \sin \theta}{1 - \sin \theta}$ का मान ज्ञात कीजिए :

SSC CHSL 09/08/2023 Shift-03

- (a) 4 (b) 3
(c) 8 (d) 5

8. If $5 \cot \theta = 3$, then find the value of $\frac{6\sin\theta - 3\cos\theta}{7\sin\theta + 3\cos\theta}$ is :

यदि $5 \cot \theta = 3$ है तो $\frac{6\sin\theta - 3\cos\theta}{7\sin\theta + 3\cos\theta}$ का मान ज्ञात कीजिए।

SSC CGL 9/03/2020 (Shift- 02)

(a) $\frac{21}{44}$ (b) $\frac{44}{21}$

(c) $\frac{11}{40}$ (d) $\frac{20}{41}$

9. If $\sin A = \frac{2}{5}$, Where A is an acute angle, what is the value of $\frac{5 \sin A + 2 \operatorname{cosec} A}{\sqrt{21} \sec A}$?

यदि $\sin A = \frac{2}{5}$ है, जहाँ A एक न्यूनकोण है, तो

$\frac{5 \sin A + 2 \operatorname{cosec} A}{\sqrt{21} \sec A}$ का मान क्या है?

SSC CHSL 10/08/2023 (Shift-01)

(a) $\frac{5}{4}$ (b) $\frac{7}{5}$

(c) $\frac{4}{5}$ (d) $\frac{5}{7}$

10. If $\sec A = \frac{17}{8}$, given that $A < 90^\circ$, what is the value of the following? $\frac{34\sin A + 15\cot A}{68\cos A - 16\tan A}$

यदि $\sec A = \frac{17}{8}$ है तो $A < 90^\circ$ का मान क्या है? दिया

है $\frac{34\sin A + 15\cot A}{68\cos A - 16\tan A}$

SSC CGL 11/04/2022 (Shift- 03)

(a) 23 (b) 19

(c) 30 (d) 38

11. If $\tan B = \frac{5}{3}$, what is the value of $\frac{\operatorname{cosec} B + \sin B}{\cos B - \sec B}$?

यदि $\tan B = \frac{5}{3}$ है तो $\frac{\operatorname{cosec} B + \sin B}{\cos B - \sec B}$ का मान ज्ञात कीजिए।

SSC CGL 20/04/2022 (Shift- 02)

(a) $-\frac{177}{125}$ (b) $\frac{177}{125}$

(c) $-\frac{59}{15}$ (d) $\frac{59}{15}$

12. If $\cos \theta = \frac{12}{13}$, then the value of $\frac{\sin \theta(1 - \tan \theta)}{\tan \theta(1 + \operatorname{cosec} \theta)}$ is :

यदि $\cos \theta = \frac{12}{13}$ है तो $\frac{\sin \theta(1 - \tan \theta)}{\tan \theta(1 + \operatorname{cosec} \theta)}$ का मान ज्ञात कीजिए।

SSC CGL MAINS 03/02/2022

(a) $\frac{25}{78}$ (b) $\frac{35}{234}$

(c) $\frac{35}{108}$ (d) $\frac{25}{156}$

13. If $\left\{ \frac{(3 \sin \theta - \cos \theta)}{(\cos \theta + \sin \theta)} \right\} = 1$, then the value of $\cot \theta$ is:

यदि $\left\{ \frac{(3 \sin \theta - \cos \theta)}{(\cos \theta + \sin \theta)} \right\} = 1$ है, तो $\cot \theta$ का मान ज्ञात कीजिए।

SSC CGL 14/07/2023 (Shift-1)

(a) 3 (b) 0

(c) 1 (d) 2

14. If $\frac{\sin \theta - \cos \theta}{\sin \theta + \cos \theta} = \frac{4}{5}$, then the value of $\frac{\operatorname{cosec}^2 \theta}{2 - \operatorname{cosec}^2 \theta}$ is:

यदि $\frac{\sin \theta - \cos \theta}{\sin \theta + \cos \theta} = \frac{4}{5}$ तो $\frac{\operatorname{cosec}^2 \theta}{2 - \operatorname{cosec}^2 \theta}$ का मान ज्ञात करें

SSC CHSL 09/08/2023 Shift-01

(a) $\frac{16}{25}$ (b) $\frac{40}{41}$

(c) $\frac{41}{40}$ (d) $\frac{31}{30}$

15. If $\sin\theta = \frac{12}{13}$, $0 < \theta < 90^\circ$, then

$$\frac{\sin^2\theta - \cos^2\theta}{2\sin\theta \cdot \cos\theta} \times \frac{1}{\tan^2\theta} = \underline{\hspace{2cm}}$$

यदि $\sin\theta = \frac{12}{13}$, $0 < \theta < 90^\circ$ है तो

$$\frac{\sin^2\theta - \cos^2\theta}{2\sin\theta \cdot \cos\theta} \times \frac{1}{\tan^2\theta} = \underline{\hspace{2cm}}$$

SSC CHSL 08/06/2022 (Shift- 2)

- (a) $\frac{295}{3456}$ (b) $\frac{290}{3542}$
 (c) $\frac{695}{3542}$ (d) $\frac{595}{3456}$

16. If $\tan\theta = \frac{2}{\sqrt{11}}$, $0 < \theta < 90^\circ$, then the value of

$$\frac{2\operatorname{cosec}^2\theta - 3\sec^2\theta}{3\operatorname{cosec}^2\theta + 4\sec^2\theta}$$
 is equal to :

यदि $\tan\theta = \frac{2}{\sqrt{11}}$, $0 < \theta < 90^\circ$ है तो

$$\frac{2\operatorname{cosec}^2\theta - 3\sec^2\theta}{3\operatorname{cosec}^2\theta + 4\sec^2\theta}$$
 का मान ज्ञात कीजिए।

CHSL 26/10/2020 (Shift- 03)

- (a) $\frac{11}{45}$ (b) $\frac{11}{49}$
 (c) $\frac{13}{49}$ (d) $\frac{10}{49}$

17. If $\sec\theta = \frac{a}{b}$, $b \neq 0$, then $\frac{1 - \tan^2\theta}{2 - \sin^2\theta} = ?$

यदि $\sec\theta = \frac{a}{b}$, $b \neq 0$ है तो $\frac{1 - \tan^2\theta}{2 - \sin^2\theta} = ?$

CGL-2019 Tier-II (15/10/2020)

- (a) $\frac{a^2(2b^2 + a^2)}{b^2(a^2 - b^2)}$ (b) $\frac{a^2(2b^2 + a^2)}{b^2(a^2 + b^2)}$
 (c) $\frac{a^2(2b^2 - a^2)}{b^2(a^2 + b^2)}$ (d) $\frac{a^2(2b^2 - a^2)}{a^2(a^2 + b^2)}$

18. If $\frac{\sin A + \cos A}{\cos A} = \frac{17}{12}$, then the value of

$$\frac{1 - \cos A}{\sin A}$$
 is :

यदि $\frac{\sin A + \cos A}{\cos A} = \frac{17}{12}$ है तो $\frac{1 - \cos A}{\sin A}$ का मान ज्ञात कीजिए।

SSC CGL 07/03/2020 (Shift- 02)

- (a) -5 (b) 1
 (c) $\frac{5}{12}$ (d) $\frac{1}{5}$

19. If $\frac{\operatorname{cosec}\theta + \cot\theta}{\operatorname{cosec}\theta - \cot\theta} = 7$, then the value of

$$\frac{4\sin^2\theta - 1}{4\sin^2\theta + 5}$$
 is:

यदि $\frac{\operatorname{cosec}\theta + \cot\theta}{\operatorname{cosec}\theta - \cot\theta} = 7$ है तो $\frac{4\sin^2\theta - 1}{4\sin^2\theta + 5}$ का मान ज्ञात कीजिए।

SSC CGL 16/08/2021 (Shift- 01)

- (a) $\frac{1}{3}$ (b) $-\frac{1}{3}$
 (c) $-\frac{1}{9}$ (d) $\frac{1}{9}$

20. If $\frac{\sin^2\theta}{\tan^2\theta - \sin^2\theta} = 5$, θ is an acute angle, then

$$\frac{24\sin^2\theta - 15\sec^2\theta}{6\operatorname{cosec}^2\theta - 7\cot^2\theta}$$
 is:

यदि $\frac{\sin^2\theta}{\tan^2\theta - \sin^2\theta} = 5$, θ है तो

$$\frac{24\sin^2\theta - 15\sec^2\theta}{6\operatorname{cosec}^2\theta - 7\cot^2\theta}$$
 का मान ज्ञात कीजिए।

SSC CGL 23/08/2021 (Shift- 02)

- (a) 2 (b) -14
 (c) 14 (d) -2

21. If $\frac{\sec\theta - \tan\theta}{\sec\theta + \tan\theta} = \frac{1}{7}$, θ lies in first quadrant,

$$\frac{\operatorname{cosec}\theta + \cot^2\theta}{\operatorname{cosec}\theta - \cot^2\theta}$$
 is:

यदि $\frac{\sec\theta - \tan\theta}{\sec\theta + \tan\theta} = \frac{1}{7}$, θ प्रथम चतुर्थांश में स्थित है तो

$$\frac{\operatorname{cosec}\theta + \cot^2\theta}{\operatorname{cosec}\theta - \cot^2\theta}$$
 का मान है।

SSC CGL MAINS 03/02/2022

- (a) $\frac{19}{5}$ (b) $\frac{22}{3}$
 (c) $\frac{37}{12}$ (d) $\frac{37}{19}$

22. In a $\triangle ABC$, right angled at B, if $\tan A = \frac{1}{\sqrt{3}}$, then $\sin A \cdot \cos C + \cos A \cdot \sin C =$ _____.

एक $\triangle ABC$ में, B पर समकोण है, यदि $\tan A = \frac{1}{\sqrt{3}}$ है, तो $\sin A \cdot \cos C + \cos A \cdot \sin C$ का मान ज्ञात कीजिए।

SSC CHSL 26/05/2022 (Shift- 1)

- (a) 0 (b) 2
(c) -1 (d) 1

23. In $\triangle ABC$, right angled at B, if $\tan A = \frac{1}{2}$, then

the value of $\frac{\sin A(\cos C + \cos A)}{\cos C(\sin C - \sin A)}$ is :

एक $\triangle ABC$ में, B पर समकोण है, यदि $\tan A = \frac{1}{2}$ है,

तो $\frac{\sin A(\cos C + \cos A)}{\cos C(\sin C - \sin A)}$ का मान ज्ञात कीजिए।

SSC CGL TIER-II (16/10/2020)

- (a) $2\sqrt{5}$ (b) 3
(c) 2 (d) 1

24. In $\triangle ABC$, $\angle B = 90^\circ$ and $AB : BC = 1 : 2$. The value of $\cos A + \tan C$ is:

$\triangle ABC$ में, $\angle B = 90^\circ$ और $AB : BC = 1 : 2$ है। $\cos A + \tan C$ का मान _____ है।

SSC CPO 04/10/2023 (Shift-01)

- (a) $\frac{1+\sqrt{5}}{2\sqrt{5}}$ (b) $\frac{2\sqrt{5}}{2+\sqrt{5}}$
(c) $\frac{5+\sqrt{5}}{2\sqrt{5}}$ (d) $\frac{2+\sqrt{5}}{2\sqrt{5}}$

25. If $\sin A = \frac{5}{13}$ and $7\cot B = 24$, then the value of $(\sec A \cos B)(\operatorname{cosec} B \tan A)$ is:

यदि $\sin A = \frac{5}{13}$ तथा $7\cot B = 24$ है तो $(\sec A \cos B)(\operatorname{cosec} B \tan A)$ का मान ज्ञात कीजिए।

SSC CGL MAINS/29/01/2022

- (a) $\frac{13}{7}$ (b) $\frac{65}{42}$
(c) $\frac{15}{13}$ (d) $\frac{13}{14}$

26. If $\sin 23^\circ = \frac{a}{b}$, then the value of $\sec 23^\circ - \sin 67^\circ$ is _____.

यदि $\sin 23^\circ = \frac{a}{b}$ है, तो $\sec 23^\circ - \sin 67^\circ$ का मान क्या है?

CGL PRE, 14/07/2023 (Shift-3)

- (a) $\frac{a^2}{\sqrt{b^2 - a^2}}$ (b) $\frac{b^2 - a^2}{ab}$
(c) $\frac{a^2}{b\sqrt{b^2 + a^2}}$ (d) $\frac{a^2}{b\sqrt{b^2 - a^2}}$

27. If $\sec 31^\circ = x$, then $\sin^2 59^\circ + \frac{1}{\sec^2 31^\circ} -$

$\frac{1}{\sin^2 59^\circ \operatorname{cosec}^2 59^\circ}$ is equal to:

यदि $\sec 31^\circ = x$ है तो $\sin^2 59^\circ + \frac{1}{\sec^2 31^\circ} -$

$\frac{1}{\sin^2 59^\circ \operatorname{cosec}^2 59^\circ}$ का मान ज्ञात कीजिए।

SSC CGL 24/08/2021 (Shift- 03)

- (a) $\frac{x^2 - 2}{x}$ (b) $\frac{2 - x^2}{x^2}$
(c) $\frac{x^2 - 2}{x^2}$ (d) $\frac{2 - x^2}{x}$

28. If $\sec \theta + \tan \theta = 2 + \sqrt{5}$, then the value of $\sin \theta + \cos \theta$ is :

यदि $\sec \theta + \tan \theta = 2 + \sqrt{5}$ है तो $\sin \theta + \cos \theta$ का मान ज्ञात कीजिए।

- (a) $\frac{3}{\sqrt{5}}$ (b) $\sqrt{5}$
(c) $\frac{7}{\sqrt{5}}$ (d) $\frac{1}{\sqrt{5}}$

29. If $\sin \theta - \cos \theta = \frac{7}{13}$, $0 < \theta < 90^\circ$, then the value of $\sin \theta + \cos \theta$ is :

यदि $\sin \theta - \cos \theta = \frac{7}{13}$, $0 < \theta < 90^\circ$ है तो $\sin \theta + \cos \theta$ का मान ज्ञात कीजिए।

- (a) $\frac{17}{13}$ (b) $\frac{13}{17}$
(c) $\frac{1}{13}$ (d) $\frac{1}{17}$

30. If $0^\circ < A, B < 45^\circ$, $\cos(A+B) = \frac{24}{25}$ and

$\sin(A-B) = \frac{15}{17}$, then $\tan 2A = ?$

यदि $0^\circ < A, B < 45^\circ$, $\cos(A+B) = \frac{24}{25}$ तथा $\sin(A-$

$B) = \frac{15}{17}$ है तो $\tan 2A$ का मान ज्ञात कीजिए।

SSC CGL 06/03/2020 (Shift-02)

(a) 0

(b) 1

(c) $\frac{416}{87}$

(d) $\frac{213}{4}$

Questions Based on Values of Trigonometric Ratios

31. Evaluate the following: / निम्नलिखित का मूल्यांकन करें:

$\sin 60^\circ + \tan 30^\circ + \cos 45^\circ$

NTPC CBT-02 15/06/2022 (Shift-01)

(a) $\frac{5\sqrt{2} + 3\sqrt{3}}{4}$

(b) $\frac{3\sqrt{2} + 5\sqrt{3}}{4}$

(c) $\frac{5\sqrt{2} + 3\sqrt{3}}{6}$

(d) $\frac{3\sqrt{2} + 5\sqrt{3}}{6}$

32. What is the value of $\sin 30^\circ + \cos 30^\circ + \tan 30^\circ$?

$\sin 30^\circ + \cos 30^\circ + \tan 30^\circ$ का मान क्या है?

SSC CGL 14/07/2023 (Shift-3)

(a) $\frac{5 + \sqrt{3}}{2\sqrt{3}}$

(b) $\frac{5 - \sqrt{3}}{2\sqrt{3}}$

(c) $\frac{5 + \sqrt{3}}{\sqrt{3}}$

(d) $\frac{5 - \sqrt{3}}{\sqrt{3}}$

33. Find the value of the given expression.

दिए गए व्यंजक का मान ज्ञात करें।

$\frac{4}{3} \tan^2 45^\circ + 3 \cos^2 30^\circ - 2 \sec^2 30^\circ - \frac{3}{4} \cot^2 60^\circ$

SSC CGL 18/07/2023 (Shift-04)

(a) $\frac{2}{3}$

(b) $\frac{3}{2}$

(c) $\frac{\sqrt{2}}{3}$

(d) $\frac{3}{\sqrt{2}}$

34. If $\sqrt{3} \tan \theta = 3 \sin \theta$, then what is the value of $\sin^2 \theta - \cos^2 \theta$?

यदि $\sqrt{3} \tan \theta = 3 \sin \theta$ है तो $\sin^2 \theta - \cos^2 \theta$ का मान ज्ञात कीजिए।

SSC CGL MAINS (08/08/2022 (Shift-01)

(a) $\frac{1}{2}$

(b) $\frac{1}{5}$

(c) $\frac{1}{3}$

(d) $\frac{1}{4}$

35. If $2k \sin 30^\circ \cos 30^\circ \cot 60^\circ$

$= \frac{\cot^2 30^\circ \sec 60^\circ \tan 45^\circ}{\operatorname{cosec}^2 45^\circ \operatorname{cosec} 30^\circ}$, then find the value of k.

यदि $2k \sin 30^\circ \cos 30^\circ \cot 60^\circ$

$= \frac{\cot^2 30^\circ \sec 60^\circ \tan 45^\circ}{\operatorname{cosec}^2 45^\circ \operatorname{cosec} 30^\circ}$ है तो k का मान ज्ञात कीजिए।

SSC CGL 12/04/2022 (Shift-03)

(a) $\frac{3}{2}$

(b) 3

(c) 1

(d) 6

36. If $A = 10^\circ$, what is the value of

$\frac{12 \sin 3A + 5 \cos (5A - 5^\circ)}{9 \sin \frac{9A}{2} - 4 \cos (5A + 10^\circ)}$

$\frac{12 \sin 3A + 5 \cos (5A - 5^\circ)}{9 \sin \frac{9A}{2} - 4 \cos (5A + 10^\circ)}$

यदि $A = 10^\circ$ है तो $\frac{12 \sin 3A + 5 \cos (5A - 5^\circ)}{9 \sin \frac{9A}{2} - 4 \cos (5A + 10^\circ)}$ का मान

ज्ञात कीजिए।

SSC CGL 18/04/2022 (Shift-03)

(a) $\frac{6\sqrt{2} + 5}{(9 + 2\sqrt{2})}$

(b) $\frac{6\sqrt{2} - 5}{(9 - 2\sqrt{2})}$

(c) $\frac{6\sqrt{2} + 5}{(9 - 2\sqrt{2})}$

(d) $\frac{(9 - 2\sqrt{2})}{6\sqrt{2} + 5}$

37. If $3 \tan \theta = 2\sqrt{3} \sin \theta$, $0^\circ < \theta < 90^\circ$, then the

value of $\frac{\operatorname{cosec}^2 2\theta + \cot^2 2\theta}{\sin^2 \theta + \tan^2 2\theta}$ is:

यदि $3 \tan \theta = 2\sqrt{3} \sin \theta$, $0^\circ < \theta < 90^\circ$ है तो

$\frac{\operatorname{cosec}^2 2\theta + \cot^2 2\theta}{\sin^2 \theta + \tan^2 2\theta}$ का मान ज्ञात कीजिए।

SSC CGL MAINS 29/01/2022

(a) $\frac{4}{13}$

(b) $\frac{20}{39}$

(c) $\frac{4}{3}$

(d) $\frac{20}{27}$

38. If $4 \sin^2(2x - 10)^\circ = 3, 0 \leq (2x-10) \leq 90$, then find the value of $\frac{\sin^4(x-5)^\circ + \cos^4(x-5)^\circ}{1 - 2 \sin^2(3x-15)^\circ \cos^2(3x-15)^\circ}$.

यदि $4 \sin^2(2x - 10)^\circ = 3, 0 \leq (2x-10) \leq 90$ है तो $\frac{\sin^4(x-5)^\circ + \cos^4(x-5)^\circ}{1 - 2 \sin^2(3x-15)^\circ \cos^2(3x-15)^\circ}$ का मान ज्ञात कीजिए।

SSC CGL 17/08/2021 (Shift- 03)

- (a) 1 (b) $\frac{5}{8}$
(c) $-\frac{5}{8}$ (d) -1

39. If $2\sin(3x - 15)^\circ = 1, 0^\circ < (3x - 15) < 90^\circ$, then find the value of $\cos^2(2x + 15)^\circ + \cot^2(x + 15)^\circ$.

यदि $2\sin(3x - 15)^\circ = 1, 0^\circ < (3x - 15) < 90^\circ$ है तो $\cos^2(2x + 15)^\circ + \cot^2(x + 15)^\circ$ का मान ज्ञात कीजिए।

SSC CGL 16/08/2021 (Shift- 02)

- (a) 1 (b) $5/2$
(c) $-7/2$ (d) $7/2$

40. If $(2 \cos A + 1)(2 \cos A - 1) = 0, 0^\circ < A < 90^\circ$, then find the value of A.

यदि $(2 \cos A + 1)(2 \cos A - 1) = 0, 0^\circ < A < 90^\circ$ है तो A का मान ज्ञात कीजिए।

SSC CGL 21/04/2022 (Shift- 01)

- (a) 90° (b) 45°
(c) 30° (d) 60°

41. If $\sin(x + 30)^\circ = \frac{3}{\sqrt{12}}$, then the value of x ($0 < x < 90^\circ$) is :

यदि $\sin(x + 30)^\circ = \frac{3}{\sqrt{12}}$ है तो x ($0 < x < 90^\circ$) का मान ज्ञात कीजिए।

SSC CHSL 26/10/2020 (Shift- 02)

- (a) 60° (b) 15°
(c) 45° (d) 30°

42. If $0^\circ < \theta < 90^\circ$ and $\cos^2\theta = 3(\cot^2\theta - \cos^2\theta)$, then

the value of $\left(\frac{1}{2} \sec\theta + \sin\theta\right)^{-1}$ is :

यदि $0^\circ < \theta < 90^\circ$ तथा $\cos^2\theta = 3(\cot^2\theta - \cos^2\theta)$ है तो

$\left(\frac{1}{2} \sec\theta + \sin\theta\right)^{-1}$ का मान ज्ञात कीजिए।

SSC CGL 04/06/2019 (Shift- 02)

(a) $\sqrt{3} + 2$ (b) $2(2 - \sqrt{3})$

(c) $2(\sqrt{3} - 1)$ (d) $\sqrt{3} + 1$

43. If $\frac{\cos^2\theta}{\cot^2\theta + \sin^2\theta - 1} = 3, 0^\circ < \theta < 90^\circ$, then

the value of $(\tan\theta + \operatorname{cosec}\theta)$ is:

यदि $\frac{\cos^2\theta}{\cot^2\theta + \sin^2\theta - 1} = 3, 0^\circ < \theta < 90^\circ$ है तो

$(\tan\theta + \operatorname{cosec}\theta)$ का मान ज्ञात कीजिए।

SSC CGL 13/08/2021 (Shift- 01)

(a) $2\sqrt{3}$ (b) $\frac{5\sqrt{3}}{3}$

(c) $3\sqrt{3}$ (d) $\frac{4\sqrt{3}}{3}$

44. If $\cos(A-B) = \frac{\sqrt{3}}{2}$ and $\sec A = 2, 0^\circ \leq A \leq 90^\circ, 0^\circ \leq B \leq 90^\circ$, then what is the measure of B?

यदि $\cos(A-B) = \frac{\sqrt{3}}{2}$ तथा $\sec A = 2, 0^\circ \leq A \leq 90^\circ, 0^\circ \leq B \leq 90^\circ$ है तो कोण B का मान ज्ञात कीजिए।

SSC CGL 11/04/2022 (Shift- 02)

- (a) 60° (b) 0°
(c) 30° (d) 90°

45. If $\sin\left(\frac{2A+B}{2}\right) = \cos\left(\frac{2A-B}{2}\right) = \frac{\sqrt{3}}{2}, 0^\circ, \frac{2A+B}{2} < 90^\circ$

and $0^\circ < \frac{2A+B}{2} < 90^\circ$ then find the value of $\sin[3(A-B)]$.

यदि $\sin\left(\frac{2A+B}{2}\right) = \cos\left(\frac{2A-B}{2}\right) = \frac{\sqrt{3}}{2}, 0^\circ,$

$\frac{2A+B}{2} < 90^\circ$ तथा $0^\circ < \frac{2A+B}{2} < 90^\circ$ है तो $\sin[3(A-B)]$ का मान ज्ञात कीजिए।

SSC CGL 16/08/2021 (Shift- 03)

(a) 1 (b) $\frac{1}{\sqrt{2}}$

(c) $\frac{1}{2}$ (d) $\frac{\sqrt{3}}{2}$

46. If triangle ABC is a right isosceles triangle, right angled at B, then find the value of $\frac{\sin(A - C) + \sin(A + C) - 2 \sin B}{\cot A + \cot B + \cot C}$.

यदि त्रिभुज ABC एक समकोण समद्विबाहु त्रिभुज है, जो B पर समकोण है, तो $\frac{\sin(A - C) + \sin(A + C) - 2 \sin B}{\cot A + \cot B + \cot C}$

का मान ज्ञात कीजिए।

NTPC CBT-1 08/04/2021 (Shift-03)

- (a) $\frac{1}{2}$ (b) $-\frac{1}{2}$
(c) $\frac{3}{2}$ (d) 0

47. If $\tan^2 A - 6 \tan A + 9 = 0$, $0 < A < 90^\circ$, What is the value of $6 \cot A + 8\sqrt{10} \cos A$?

यदि $\tan^2 A - 6 \tan A + 9 = 0$, $0 < A < 90^\circ$ है तो $6 \cot A + 8\sqrt{10} \cos A$ का मान ज्ञात कीजिए।

SSC CGL 20/04/2022 (Shift- 02)

- (a) $10\sqrt{10}$ (b) $8\sqrt{10}$
(c) 10 (d) 14

48. If $3 \sec \theta + 4 \cos \theta - 4\sqrt{3} = 0$ where θ is an acute angle then the value of θ is:

यदि $3 \sec \theta + 4 \cos \theta - 4\sqrt{3} = 0$ जहाँ θ एक न्यूनकोण है तो θ का मान ज्ञात कीजिए।

SSC CGL 13/08/2021 (Shift- 03)

- (a) 20° (b) 30°
(c) 60° (d) 45°

49. If $\sin \alpha + \sin \beta = \cos \alpha + \cos \beta = 1$, then $\sin \alpha + \cos \beta = ?$

यदि $\sin \alpha + \sin \beta = \cos \alpha + \cos \beta = 1$ है तो $\sin \alpha + \cos \beta = ?$

SSC CGL 23/08/2021 (Shift- 02)

- (a) 2 (b) 0
(c) 1 (d) -1

50. $\sin(-A) = ?$

SSC CHSL 24/05/2022 (Shift- 02)

- (a) $\cos A$ (b) $-\cos A$
(c) $-\sin A$ (d) $\sin A$

51. If $\tan(90 - \theta) = \frac{2}{\sqrt{3}}$, then the value of $2\sqrt{3} \tan \theta + 1$ is:

यदि $\tan(90 - \theta) = \frac{2}{\sqrt{3}}$, तो $2\sqrt{3} \tan \theta + 1$ का मान ज्ञात कीजिए।

SSC CHSL, 11/08/2023 (Shift-2)

- (a) 4 (b) 5
(c) 3 (d) 6

52. What is the simplified value of $\cos^2(90^\circ - \theta) - \left[\frac{\cos(90^\circ - \theta) \cos \theta}{\cot \theta} \right]$?/का सरलीकृत मान क्या है?

SSC CHSL 31/05/2022 (Shift- 3)

- (a) 4 (b) 2
(c) 0 (d) 1

53. Find the value of

$$\frac{\sin(90^\circ - \theta) \cos(90^\circ - \theta) \cot(90^\circ - \theta)}{\cos^2 \theta - 1}$$

का मान ज्ञात कीजिए।

Group D 19/09/2022 (Shift-01)

- (a) $\tan \theta$ (b) 0
(c) -1 (d) $2 \sin \theta \cos \theta$

54. The following expression is equal to/नीचे दिया गया व्यंजक बराबर है।

$$\cot 85^\circ + \cos 75^\circ$$

SSC CGL 20/07/2023 (Shift- 02)

- (a) $\tan 85^\circ + \sin 75^\circ$ (b) $\tan 85^\circ - \sin 75^\circ$
(c) $\tan 5^\circ + \sin 15^\circ$ (d) $\tan 5^\circ - \sin 15^\circ$

55. Find θ , if $\cos \theta = -\frac{\sqrt{3}}{2}$

यदि $\cos \theta = -\frac{\sqrt{3}}{2}$ है, तो θ का मान ज्ञात करें।

SSC CHSL 02/06/2022 (Shift- 2)

- (a) $\frac{3\pi}{2}$ (b) $\frac{5\pi}{2}$
(c) $\frac{2\pi}{3}$ (d) $\frac{4\pi}{3}$

56. $\tan(\pi + \theta) = ?$

SSC CHSL 08/06/2022 (Shift- 1)

- (a) $\sec \theta$ (b) $\operatorname{cosec} \theta$
(c) $\cot \theta$ (d) $\tan \theta$

57. The value of $\sin 73^\circ + \cos 137^\circ$ is

$\sin 73^\circ + \cos 137^\circ$ का मान क्या होगा?

SSC CHSL 10/06/2022 (Shift- 3)

- (a) $\sin 13^\circ$ (b) $\cos 13^\circ$
(c) $\cos 18^\circ$ (d) $\sin 18^\circ$

58. The value of $\sin^2 \frac{2\pi}{3} + \cos^2 \frac{5\pi}{6} - \tan^2 \frac{3\pi}{4}$ is:

$\sin^2 \frac{2\pi}{3} + \cos^2 \frac{5\pi}{6} - \tan^2 \frac{3\pi}{4}$ का मान क्या है?

SSC Phase X 03/08/2022 (Shift- 02)

- (a) $\frac{1}{2}$ (b) $\frac{1}{4}$
(c) 4 (d) 2

59. Simplify. $\frac{1}{\cos x} \sqrt{\frac{\cos(\pi+x)\cos(-x)}{\sin(\pi-x)\cos\left(\frac{\pi}{2}+x\right)}}$

$\frac{1}{\cos x} \sqrt{\frac{\cos(\pi+x)\cos(-x)}{\sin(\pi-x)\cos\left(\frac{\pi}{2}+x\right)}}$ सरल करें

SSC Phase X 04/08/2022 (Shift- 03)

- (a) $\tan x$ (b) $\cot x$
(c) $\sec x$ (d) $\operatorname{cosec} x$

60. If $\cos x = -\frac{\sqrt{3}}{2}$ and $\pi < x < \frac{3\pi}{2}$, then the value of $2\cot^2 x + 3\sec^2 x$ is :

SSC CHSL 08/07/2019 (Shift- 02)

- (a) 10 (b) 4
(c) 8 (d) 16

61. Find x if $\cos x = -\frac{1}{2}$.

SSC CHSL 15/10/2020 (Shift- 03)

- (a) $\frac{3\pi}{2}$ (b) $\frac{2\pi}{3}$
(c) $\frac{5\pi}{6}$ (d) $\frac{4\pi}{3}$

62. If $\cos x = -\frac{1}{2}$, x lies in third quadrant, then $\tan x = ?$

यदि $\cos x = -\frac{1}{2}$, x तीसरे चतुर्थांश में स्थित है, तो $\tan x = ?$

SSC CGL 17/07/2023 (Shift-03)

- (a) $\sqrt{3}$ (b) $\frac{\sqrt{3}}{2}$

- (c) $\frac{2}{\sqrt{3}}$ (d) $\frac{1}{\sqrt{3}}$

63. Find the exact value of $\cos 120^\circ$.

$\cos 120^\circ$ का सटीक मान ज्ञात कीजिए।

SSC CGL 18/07/2023 (Shift-04)

- (a) -0.5 (b) 0
(c) 0.5 (d) 1

64. Find the value of the following?

$$\cos^2(270 - \phi) - \sin^2(180 - \phi) + \sin^2\left(\frac{\pi}{2}\right) \sin^2(270 - \phi).$$

निम्न का मान ज्ञात कीजिए?

RRB NTPC 08/01/2021 (Shift-01)

- (a) $\cos^2 \phi$ (b) $\sin^2\left(\frac{\pi}{2}\right)$

- (c) $\sin^2(\phi) - 1$ (d) $\sin^2(\phi)$

65. What is the value of

$$[\cos(90^\circ + A) \div \sec(270^\circ - A)] + [\sin(270^\circ + A) \div \operatorname{cosec}(630^\circ - A)]$$

का मान ज्ञात कीजिए।

- (a) $3 \sec A$ (b) $\tan A \sec A$
(c) 0 (d) 1

66. What is the value of $\sin(-405^\circ)$?

$\sin(-405^\circ)$ का मान ज्ञात करें।

SSC SSC 20/07/2023 (Shift-03)

- (a) $\frac{\sqrt{5}}{2}$ (b) $\frac{1}{2}$

- (c) $\frac{-1}{2}$ (d) $\frac{-1}{\sqrt{2}}$

67. Find the value of $\tan(-1125^\circ)$.

$\tan(-1125^\circ)$ का मान ज्ञात कीजिए।

SSC CGL 25/07/2023 (Shift-2)

- (a) 1 (b) $\frac{1}{2}$

- (c) -1 (d) 0

68. Find the value of $\tan 4384^\circ + \cot 6814^\circ = ?$

$\tan 4384^\circ + \cot 6814^\circ$ का मान ज्ञात कीजिए।

SSC CGL 26/07/2023 (Shift-3)

- (a) -1 (b) 2

- (c) 0 (d) 1

69. Find the value of
 $\cos 570^\circ \sin 510^\circ + \sin(-330^\circ) \cos(-390^\circ)$
 का मान ज्ञात कीजिए।
 (a) 1
 (b) 0
 (c) 2
 (d) NOT

70. Find is the value of $\sin \frac{7\pi}{4} \sin \frac{\pi}{4} \sin \frac{3\pi}{4}$
 $\sin \frac{5\pi}{4}$.
 $\sin \frac{7\pi}{4} \sin \frac{\pi}{4} \sin \frac{3\pi}{4} \sin \frac{5\pi}{4}$ का मान ज्ञात करें।

RRB JE 22/05/2019 (Shift-02)

- (a) $\frac{1}{4}$ (b) $\frac{3}{16}$
 (c) $\frac{1}{8}$ (d) $\frac{1}{16}$

Answer Key

1.(a)	2.(a)	3.(b)	4.(b)	5.(b)	6.(b)	7.(a)	8.(a)	9.(b)	10.(b)
11.(a)	12.(b)	13.(c)	14.(c)	15.(d)	16.(b)	17.(c)	18.(d)	19.(d)	20.(b)
21.(a)	22.(d)	23.(b)	24.(d)	25.(b)	26.(d)	27.(b)	28.(a)	29.(a)	30.(c)
31.(d)	32.(a)	33.(a)	34.(c)	35.(b)	36.(c)	37.(b)	38.(b)	39.(d)	40.(d)
41.(d)	42.(b)	43.(b)	44.(c)	45.(b)	46.(b)	47.(c)	48.(b)	49.(c)	50.(c)
51.(a)	52.(c)	53.(c)	54.(c)	55.(c)	56.(d)	57.(a)	58.(a)	59.(d)	60.(a)
61.(c)	62.(a)	63.(a)	64.(c)	65.(d)	66.(d)	67.(c)	68.(c)	69.(b)	70.(d)