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MATHEMATICS

Chapter 11 : Trigonometry

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MATHEMATICS

Trigonometry

SSC CGL Tier-1

1 Dec Shift-2
11:45 AM - 12:45 PM

1. What will be the value of $\frac{sin30°sin40°sin50°sin60°}{cos30°cos40°cos50°cos60°}$?

   A. $\frac{1}{\sqrt{2}}$
   B. $\sqrt{3}$
   C. 1
   D. $\frac{1}{\sqrt{3}}$

Trigonometry

SSC CGL Tier-1

1 Dec Shift-2
11:45 AM - 12:45 PM

2. The value of $(\sin30° \cos60° - \cos30° \sin60°)$ is equal to:
   A. $-\cos30°$
   B. $-\sin30°$
   C. $\cos30°$
   D. $\sin30°$

Trigonometry

SSC CGL Tier-1

1 Dec Shift-2
11:45 AM - 12:45 PM

3. What is sinα – sinβ?

A. $2\cos\frac{\alpha+\beta}{2}\sin\frac{\alpha-\beta}{2}$

B. $2\sin\frac{\alpha+\beta}{2}\sin\frac{\alpha-\beta}{2}$

C. $2\cos\frac{\alpha-\beta}{2}\sin\frac{\alpha+\beta}{2}$

D. $2\cos\frac{\alpha+\beta}{2}\sin\frac{\alpha-\beta}{2}$

Trigonometry

SSC CGL Tier-1

1 Dec
Shift-3 2:30 PM - 3:30 PM

4. The value of $\frac{2tan60°}{1+tan^2 60°}$ is:
   A. cos 60°
   B. tan 60°
   C. sin 60°
   D. sin 30°

Trigonometry

SSC CGL Tier-1

1 Dec
Shift-3 2:30 PM - 3:30 PM

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5. What is the value of tan 240°?
   A. $\sqrt{2}$
   B. $(-)\sqrt{3}$
   C. $\sqrt{3}$
   D. 3

Trigonometry

SSC CGL Tier-1

1 Dec Shift-3 2:30 PM - 3:30 PM

6. If $\tan\theta + \sec\theta = 7$, θ being acute, then the value of $5\sin\theta$ is:

A. $\frac{25}{24}$

B. $\frac{24}{25}$

C. $\frac{1}{24}$

D. $\frac{24}{5}$

Trigonometry

SSC CGL Tier-1

1 Dec Shift-4
5:15 PM - 6:15 PM

7. $16\cos^3\frac{\pi}{6} - 12cos\frac{\pi}{6} = \_\_\_$

A. 0
B. 2
C. 1
D. –1

Trigonometry

SSC CGL Tier-1

1 Dec Shift-4
5:15 PM - 6:15 PM

8. If $\cos A = \frac{9}{41}$, find $\cot A$.

A. $\frac{9}{40}$

B. $\frac{41}{40}$

C. $\frac{40}{9}$

D. $\frac{9}{41}$

Trigonometry

SSC CGL Tier-1

1 Dec Shift-4
5:15 PM - 6:15 PM

9. If $\tan^2\theta = 1 - a^2$, then the value of $\sec\theta + \tan^3\theta \operatorname{cosec}\theta$ is:

A. $(2-a)^{\frac{3}{2}}$

B. $(a^2-1)^{\frac{3}{2}}$

C. $(2-a^2)^{\frac{3}{2}}$

D. $a^{\frac{3}{2}}$

Trigonometry

SSC CGL Tier-1

2 Dec, 2022 Shift-1
9:00 AM - 10:00 AM

10. If cot x – tan x = 3/2, then what will be the value of cot x + tan x?
    A. 3
    B. 2
    C. 5/2
    D. 7/2

Trigonometry

SSC CGL Tier-1

2 Dec, 2022 Shift-1
9:00 AM - 10:00 AM

11. If $\sec^2 A + tan^2 A = \frac{4}{17}$, then $\sec^4 A - \tan^4 A$ is equal to:

A. $\frac{13}{17}$

B. $\frac{4}{13}$

C. $\frac{4}{17}$

D. $\frac{5}{17}$

Trigonometry

SSC CGL Tier-1

2 Dec, 2022 Shift-1
9:00 AM - 10:00 AM

12. If sin (A + B) = cos (A + B), what is the value of tan A?

A. $\frac{1-tanB}{1+tanB}$

B. $\frac{1+tanB}{1-tanB}$

C. $\frac{1+secB}{1-secB}$

D. $\frac{1-cosec\ B}{1+cosec\ B}$

Trigonometry

SSC CGL Tier-1

2 Dec, 2022 Shift-2 (11:45 AM - 12:45 PM)

13. In Δ ABC, right-angled at B, AB = 7 cm and AC – BC = 1 cm. Find the value of sin C

A. $\frac{3}{7}$

B. $\frac{12}{13}$

C. $\frac{3}{25}$

D. $\frac{7}{25}$

Trigonometry

SSC CGL Tier-1

2 Dec, 2022 Shift-2 (11:45 AM - 12:45 PM)

14. If $\sin\theta + \cos\theta = \sqrt{5}\sin(90 - \theta)$, find the value of $\cot\theta$.

A. $\frac{\sqrt{5}-1}{5}$

B. $\frac{\sqrt{5}+1}{4}$

C. $\frac{\sqrt{5}+1}{3}$

D. $\frac{\sqrt{5}-1}{4}$

Trigonometry

SSC CGL Tier-1

2 Dec, 2022 Shift-2 (11:45 AM - 12:45 PM)

15. If $\text{cosec}A - \cot A = \frac{1}{4}$, then the value of tan A is:

A. $\frac{8}{15}$

B. $\frac{8}{17}$

C. $\frac{15}{17}$

D. $\frac{17}{15}$

Trigonometry

SSC CGL Tier-1

2 Dec, 2022 Shift-3 (2:30 PM - 3:30 PM)

16. The value of $\cot 15° \cot 25° \cot 45° \cot 75° \cot 65°$ is:

A. 1

B. $\sqrt{3}$

C. 1

D. $\sqrt{2}$

Trigonometry

SSC CGL Tier-1

2 Dec, 2022 Shift-3 (2:30 PM - 3:30 PM)

17. In triangle PQR, right angled at Q, if $\cot P = \sqrt{3}$, then the value of sin P is:

A. 1

B. $\frac{1}{\sqrt{3}}$

C. $\frac{\sqrt{3}}{2}$

D. $\frac{1}{2}$

Trigonometry

SSC CGL Tier-1

2 Dec, 2022 Shift-4 (5:15 PM - 6:15 PM)

18. If $\tan A + \cot A = 2$, then the value of $2(\tan^2 A + \cot^2 A)$ is:
    A. 1
    B. 4
    C. 2
    D. 3

Trigonometry

SSC CGL Tier-1

2 Dec, 2022 Shift-4 (5:15 PM - 6:15 PM)

19. If $\frac{(1-cos\theta)}{sin\theta} = \frac{1}{5}$, then what will be the value of $\frac{(1+cos\theta)}{sin\theta}$?

A. 5
B. 2/5
C. 4/5
D. 1/5

Trigonometry

SSC CGL Tier-1

2 Dec, 2022 Shift-4 (5:15 PM - 6:15 PM)

20. If $\sin A = \frac{4}{5}$ and $\sin B = \frac{15}{17}$, what is the value of $\sin (A - B)$?

A. $-\frac{32}{45}$

B. $-\frac{13}{85}$

C. $\frac{13}{85}$

D. $\frac{32}{45}$