INDIAN SCHOOL AL WADI AL KABIR

Department of Mathematics, 2020-2021

CLASS: XI | Chapter -3 – Trigonometric Function | 22-02-2020

Q.1.	The value of sin (-1125) is							
	A	$\frac{1}{\sqrt{2}}$	**B**	$\frac{-1}{\sqrt{2}}$	**C**	$\sqrt{2}$	**D**	$-\sqrt{2}$
Q.2.	If tan x = $\frac{1}{2}$ and tan y = $\frac{1}{3}$ then the value of x + y is							
	A	0	**B**	π	**C**	$\frac{\pi}{2}$	**D**	$\frac{\pi}{4}$
Q.3.	The value of $\frac{1-tan^2\ 15}{1+tan^2\ 15}$ is							
	A	1	**B**	$\sqrt{3}$	**C**	$\frac{\sqrt{3}}{2}$	**D**	2
Q.4.	The value of cos 1^0 cos 2^0 cos 3^0 cos 4^0 …….. cos 179^0 is							
	A	$\frac{1}{\sqrt{2}}$	**B**	0	**C**	1	**D**	-1
Q.5.	If tan ∅ = 3 and ∅ is in third quadrant, then the value of sin ∅ *is*							
	A	$\frac{1}{\sqrt{10}}$	**B**	$\frac{-1}{\sqrt{10}}$	**C**	$\frac{3}{\sqrt{10}}$	**D**	$\frac{-3}{\sqrt{10}}$
Q.6.	Find the value of sin 50^0 - sin 70^0 + sin 10^0 is							
	A	1	**B**	$\frac{1}{2}$	**C**	0	**D**	-1
Q.7.	If sin x + cos x = 1, then the value of sin 2x is							
	A	0	**B**	$\frac{1}{2}$	**C**	1	**D**	-1
Q.8.	If $\alpha + \beta = \frac{\pi}{4}$, then the value of (1 + tan α) (1 + tan β) is							
	A	1	**B**	2	**C**	-2	**D**	not defined
Q.9.	The value of sin (45° + θ) – cos (45° – θ) is							
	A	2sinθ	**B**	2cosθ	**C**	1	**D**	0

Q.10	If $\sin\theta + \operatorname{cosec}\theta = 2$, then $\sin^2\theta + \operatorname{cosec}^2\theta$ is equal to							
	A	1	**B**	4	**C**	2	**D**	-1
Q.11	If $\cos(\theta + \emptyset) = m\cos(\theta - \emptyset)$, then prove that $\tan\theta = \frac{1+m}{1-m}\cot\emptyset$							
Q12.	Find the value of $\sqrt{3}$ cosec 20° – sec 20°							
Q13.	Show that tan 3x tan 2x tan x = tan 3x – tan 2x – tan x.							
Q14.	$\cos^2 x + \cos^2\left(x + \frac{\pi}{3}\right) + \cos^2\left(x - \frac{\pi}{3}\right) = \frac{3}{2}$							
Q15.	Show that $\sqrt{2 + \sqrt{2 + 2\,Cos\,4\theta}}$ = 2 Cos θ							
Q16.	Prove that Cot 4x (Sin 5x + Sin 3x) = Cot x (Sin 5x – Sin 3x)							
Q17.	If Sin $\propto$ + Sin β = a and Cos $\propto$ + Cos β = b, then show that Cos $(\alpha + \beta) = \frac{b^2 - a^2}{b^2 + a^2}$							
Q18.	Prove that $\frac{Sec\,8A - 1}{Sec\,4A - 1} = \frac{tan\,8A}{tan\,2A}$							
Q19.	Prove that Cos 20^0. Cos 40^0. Cos 60^0. Cos $80^0 = \frac{1}{16}$							
Q20.	If $a\cos\theta + b\sin\theta = m$ and $a\sin\theta - b\cos\theta = n$, then show that $a^2 + b^2 = m^2 + n^2$							
Q21.	If $\frac{\sin(x+y)}{\sin(x-y)} = \frac{a+b}{a-b}$, then show that $\frac{\tan x}{\tan y} = \frac{a}{b}$							
Q22.	Find the value of tan $\frac{\pi}{8}$							
Q23.	Prove that $\cos^2 x + \cos^2\left(x + \frac{\pi}{3}\right) + \cos^2\left(x - \frac{\pi}{3}\right) = \frac{3}{2}$.							
Q24.	Prove that cot x cot 2x – cot 2x cot 3x – cot 3x cot x = 1							
Q25.	cos 6x = 32 $\cos^6$ x – 48$\cos^4$ x + 18 $\cos^2$ x – 1							

Answers	**1**	B	**2**	D	**3.**	C	**4**	B
	5	C	**6**	C	**7**	A	**8**	B
	9	D	**10**	C	**11**		**12**	
	13		**14**		**15**		**16**	
	17		**18**		**19**		**20**	
	21		**22**		**23**		**24**	
	25		**26**		**27**		**28**	
	29		**30**					