

ECAT Mathematics Online Test

Sr	Questions	Answers Choice
1	If $\sin 6\theta + \sin 4\theta + \sin 2\theta$, then $\theta =$	
2	The number of values of x in the interval $[0, 5\pi]$ satisfying the equation $3 \sin^2 x - 7 \sin x + 2 = 0$ is	A. 0 B. 5 C. 6 D. 10
3	Question Image	
4	Question Image	
5	$\cot \theta = \sin 2\theta$ if $\theta =$	
6	$\cot \theta = \sin 2\theta$ if $\theta =$	
7	Question Image	
8	Question Image	
9	Question Image	A. No solution B. One real solution C. More than one real solution D. None of these
10	If $4 \sin^2 \theta = 1$, then values of θ are	
11	Question Image	A. 30° B. 45° C. 60° D. 75°
12	The general solution of $\tan 3x = 1$ is	
13	If $\sin A = \sin B$, $\cos A = \cos B$, then the value of A in terms of B is	
14	$\sec^{-1} x =$	A. $\cos^{-1} 1/x$ B. $\operatorname{cosec}^{-1} 1/x$ C. $\cos^{-1} (-x)$ D. $\tan^{-1} x$
15	$\sin^{-1} (-x) =$	A. $\cos^{-1} 1/x$ B. $-\sin^{-1} x$ C. $\cot^{-1} x$ D. None of these
16	$\tan^{-1} 1/x =$ _____	A. $\sin x$ B. $\sec^{-1} x$ C. $\cot^{-1} x$ D. None of these
17	$\sin^{-1} [-1/2] =$ _____	
18	The number of triplets (x, y, z) satisfying $\sin^{-1} x + \cos^{-1} y + \sin^{-1} z = 2\pi$ is	A. 0 B. 2 C. 1 D. Infinite
19	If $\tan^{-1} 3 + \tan^{-1} x = \tan^{-1} 8$, then $x =$	A. 5 B. $1/5$ C. $5/14$ D. $14/5$
20	Question Image	
21	Question Image	
22	Question Image	A. $\pi / 3$ B. $\pi / 4$

- C. $\pi / 6$
D. 0

23 Question Image

- A. $\pi / 2$
B. $\pi / 3$
C. $\pi / 4$
D. $\pi / 4$

24 $\sin[\cot^{-1}\{\cos(\tan^{-1}x)\}] =$

- A. $\cot(\tan^{-1}x)$
B. $\tan x$
C. secon x
D. None of these

26 Question Image

- A. $\pi / 4$
B. $\pi / 6$
C. $\pi / 3$
D. 0

27 Question Image

- A. $\pi / 3$
B. $\pi / 4$
C. $\pi / 2$
D. π

28 Question Image

- A. $16 / 7$
B. $6 / 17$
C. $7 / 16$
D. None of these

29 The solution set of the equation $\tan^{-1}x - \cot^{-1}x = \cos^{-1}(2 - x)$ is

- A. $[0, 1]$
B. $[-1, 1]$
C. $[1, 3]$
D. None of these

30 Question Image

- A. 2
B. 5
C. 7
D. None of these