

Questions

		/// month on you
	If θ lies in the second quadrant and $3 \tan \theta + 4 = 0$, then the value of $2 \cot \theta$,,
2.	If $\cos(\alpha + \beta) = \frac{3}{5}$, $\sin(\alpha - \beta) = \frac{5}{13}$ and $0 < \alpha, \beta < \frac{\pi}{4}$, then $\tan(2\alpha)$ is	69
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
3.	$\lambda = \sin^2(5^o) + \sin^2(10^o) + \ldots + \sin^2(85^o)$. Then number of positive	divisors of $2\lambda - 8$ is equal to
	(1) 2 ongo /// mathongo /// mathongo /// mathongo (3) 4	(2) 3 athongo /// mathongo /// mathongo /// mathongo /// n (4) 5
4.	For any $\theta \in \left(\frac{\pi}{4}, \frac{\pi}{2}\right)$, the expression $3(\sin \theta - \cos \theta)^4 + 6(\sin \theta + \cos \theta)^2$	$+ 4 \sin^6 heta$ equals:
	(1) $13 - 4\cos^2\theta + 6\cos^4\theta$	(2) $13-4\cos^6\theta$ /// mathongo /// mathongo /// mathongo /// mathongo
	(3) $13 - 4\cos^2\theta + 6\sin^2\theta\cos^2\theta$	(4) $13 - 4\cos^4\theta + 2\sin^4\theta\cos^2\theta$
5.	The value of $\frac{\sin 22^* \cos 8^* + \cos 158^* \cos 98^*}{\sin 23^* \cos 7^* + \cos 157^* \cos 97^*} = mathongo$ /// mathongo	
	(1) 1	(2) 2
	(3) 1/2	(4) 1/4
6.	If $F(k) = \left(1 + \sin\frac{\pi}{2k}\right) \left(1 + \sin(k-1)\frac{\pi}{2k}\right) \left(1 + \sin(2k+1)\frac{\pi}{2k}\right) \left(1 + \sin(k-1)\frac{\pi}{2k}\right)$	$1(3k-1)\frac{\pi}{2k}$, then the value of $F(1)+F(2)+F(3)$ is equal to
	(1) $\frac{3}{16}$	(2) $\frac{1}{4}$
	(3) 16 ngo /// mathongo /// mathongo /// mathongo	$\sqrt{4}$ $\sqrt{\frac{7}{16}}$ ithongo /// mathongo /// mathongo /// mathongo /// mathongo /// mathongo
7.	Let the maximum and minimum value of the expression $2\cos^2\theta+\cos\theta$	$+$ 1 is M and m respectively, then the value of $\left[\frac{M}{m}\right]$ is, (where $[.]$ is the greatest integer
	function)	
8.	The maximum value of $3\cos\theta + 5\sin\left(\theta - \frac{\pi}{6}\right)$ for any real value of θ is	72. Hathorigo 72. Hathorigo 72. Hathorigo 72. H
	(1) $\sqrt{19}$	(2) $\sqrt{31}$
	(3) $\frac{\sqrt{79}}{2}$ rgo /// mathongo /// mathongo	$\sqrt{34}$ ongo /// mathongo /// mathongo /// mathongo /// n
9.	The number of integers in the range of $3\sin^2 x + 3\sin x \cos x + 7\cos^2 x$	c are:
	(1) 3 (3) 5 ongo /// mathongo /// mathongo /// mathongo	(2) 4 (4) 6 sthongo /// mathongo /// mathongo /// mathongo /// n
10		
10.		$+bx+c=0$ is a quadratic equation whose roots are $\alpha^{1/5}$ and $\beta^{1/5}$, then the value of
///.	c + b is equal to: mathongo /// mathongo /// mathongo	/// mathongo /// mathongo /// mathongo /// n
///.		
///.	c - b is equal to: mathongo /// mathongo /// mathongo (1) 42	// mathongo // mathongo // mathongo // n (2) 47 (4) 50
/4.	c - b is equal to: mathongo /// mathongo /// mathongo (1) 42 (3) 43	// mathongo // mathongo // mathongo // n (2) 47 (4) 50
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