MATHS

BOOKS - RESONANCE DPP ENGLISH

TRIGONOMETRIC FUNCTIONS

Others

1. If $f(x) = \cos x + \cos ax$ is periodic function, then a must be (a)an integer (b) a rational number (c)an irrational number (d) an even number

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2. The fundamental period of the function $y = \sin^2\left(\dfrac{\sqrt{2}x + 3}{6\pi}\right)$ is $\lambda\pi^2$ then the value of $\dfrac{\lambda}{\sqrt{2}}$ is_____

3. If

$$\sum_{n-1}^{2013} \tan\left(\frac{\theta}{2^n}\right) sec\left(\frac{\theta}{2^{n-1}}\right) = \tan\left(\frac{\theta}{2^a}\right) - \tan\left(\frac{\theta}{2^b}\right)$$

then $(b + a)$ equals (a)2014 (b) 2012 (c) 2013 (d) 2014

4. For the expression $\dfrac{1}{\sin^6 x + \cos^6 x}$ a.maximum value is 4 b. minimum value is 1 c. maximum value is 6 d. minimum value is $\dfrac{1}{2}$

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5. If $f(x) = \dfrac{1 - s \in 2x + \cos 2x}{2 \cos 2x}$, then the value of $f(16^0) f(29^0)$ is $\dfrac{1}{2} \ \dfrac{1}{4} \ 1 \ \dfrac{3}{4}$

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6. If range of the function

$$f(x) = \frac{2\sin^2 x + 2\sin x + 3}{\sin^2 x + \sin x + 1} \, is\, [p, q], \quad \text{then the}$$

value of $3p + 6q + 1$ is (a) $\dfrac{10}{3}$ (b) $\dfrac{7}{3}$ (c) 28 (d) None

of these

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7. Value of $\cot 40^0 \cot 20^0 \left(4\sin 10^0 - 1\right)$ is -1 (b)1

(c) 2 (d) 0

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