نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ..۱۲.. کلاس ..یازدهم A.....

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$$\cos x = \tan^2 x + 1 = \frac{1}{\cos^2 x}$$

$\cos x \neq 0$

$$\Rightarrow \cos^2 x = \frac{1}{4} \Rightarrow \cos x = \frac{1}{2} = \cos\frac{\pi}{3}$$

$$x = 2k\pi \pm \frac{\pi}{3}$$

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$$4(1-\cos^2 x) + 4\cos^2 x - 4\cos x = -2$$

$$4\cos^2 x - 4\cos^2 x - 4\cos x + 6 = 0$$

$$4t^2 - 4t^2 - 4t + 6 = (t+1)(4t^2 - 12t + 6)$$

$\Delta < 0$

$$\cos x = -1 = \cos\pi \Rightarrow x = 2k\pi + \pi \longrightarrow x = \pi, -\pi$$

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$$2\sin x(1 - 2\sin^2 x) + \sin x = 1$$

$$3\sin x - 4\sin^3 x = 1 \Rightarrow \sin 3x = \sin\frac{\pi}{2}$$

$$3x = 2k\pi + \frac{\pi}{2} \Rightarrow x = \frac{2k\pi}{3} + \frac{\pi}{6}$$

$$\frac{\pi}{6} + \frac{2\pi}{3} + \frac{\pi}{6} + \frac{4\pi}{3} + \frac{\pi}{6} = 5\pi$$

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$$\frac{1}{\cos 2x} + \frac{1}{-\sin 4x} = 0$$

$$\frac{\cos 2x - \sin 4x}{-\cos 2x \sin 4x} = 0 \Rightarrow \cos 2x = \sin 4x = 2\sin 2x \cos 2x$$

$$\Rightarrow \sin 2x = \frac{1}{2} = \sin\frac{\pi}{6}$$

$$2x = 2k\pi + \frac{\pi}{6} \Rightarrow x = k\pi + \frac{\pi}{12} \qquad \alpha = \frac{5\pi}{12} - \frac{\pi}{12} = \frac{\pi}{3}$$

$$2x = 2k\pi + \frac{5\pi}{6} \Rightarrow x = k\pi + \frac{5\pi}{12} \qquad \tan\frac{2\pi}{3} = -\sqrt{3}$$

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$$\frac{1}{12}\cos x - \sin x \times \frac{1}{12} = \frac{1}{12}$$

$$\cos x - \sin x = \sqrt{\frac{2}{4}} \Rightarrow 1 - \sin 2x = \frac{2}{4} \Rightarrow \sin 2x = \frac{1}{4}$$

$$\Rightarrow m \times \frac{\sqrt{4}}{2} - \sqrt{4} = 2\sqrt{4}\sin 2x \Rightarrow \frac{m}{2} - 1 = 2 \times \frac{1}{4} \Rightarrow \frac{m}{2} = 2 \Rightarrow m = 4$$

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$x+\frac{\pi}{4}-(x-\frac{\pi}{4})=\frac{\pi}{4}$

$\sin(x+\frac{\pi}{4})\cos(x+\frac{\pi}{4}-\frac{\pi}{4})=1$

$\sin(x+\frac{\pi}{4})=1$

$\sin(x+\frac{\pi}{4})=\pm 1$

$x+\frac{\pi}{4}=k\pi\pm\frac{\pi}{2}$

گزینه ۲

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$2\cos^2\alpha\times 2\cos^2 2\alpha\times 2\cos^2 4\alpha=\frac{1}{8}\rightarrow\times 8\sin^2\alpha\rightarrow 64\sin^2\alpha\cos^2\alpha\times\cos^2 2\alpha\times\cos^2 4\alpha=\sin^2\alpha$

$\Rightarrow \sin\alpha=\sin 8\alpha$ یا $\sin\alpha=-\sin 8\alpha$

$2k\pi+\alpha=8\alpha$ $\quad 2k\pi+\alpha=-8\alpha$

$2k\pi+\pi-\alpha=8\alpha$ $\quad 2k\pi+\pi-\alpha=-8\alpha$

$\Rightarrow \frac{2k\pi}{7}=\alpha$ $\quad -\frac{2k\pi}{9}=\alpha$

$\frac{2k\pi+\pi}{9}=\alpha$ $\quad -\frac{2k\pi+\pi}{7}=\alpha$

$\xrightarrow[\max]{k=1} \frac{2\times 1\times\pi+\pi}{9}=\pi$ $\quad \sin\alpha\neq 0$ غ ق ق

$\xrightarrow[\max]{k=-1} \frac{-(-1)\times 2\pi}{9}=\frac{8\pi}{9}$ ق ق

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$\Rightarrow \tan^2 x=\cot x\Rightarrow \tan^2 x=\tan(\frac{\pi}{2}-x)$

$\tan\neq 0$ $\quad 2x=k\pi+\frac{\pi}{2}-x\Rightarrow 3x=k\pi+\frac{\pi}{2}\Rightarrow x=k\frac{\pi}{3}+\frac{\pi}{6}\pm\frac{(k+1)\pi}{8}$

$k=1\longleftrightarrow k=0$

$\frac{9\pi}{8}$ $\quad \frac{11\pi}{8}$ $\quad \frac{17\pi}{8}$ $\quad \frac{19\pi}{8}$ $\rightarrow$ $\frac{4\pi}{3}$

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