نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ..... کلاس .....

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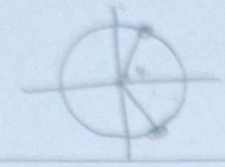
$$\wedge\cos x - \tan^2 x = 1 \Rightarrow \wedge\cos x = 1 + \tan^2 x \Rightarrow \wedge\cos x = \frac{1}{\cos^2 x}$$

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



۲ جواب دارد

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$$\omega\sin^2(x) + 2\cos(2x) = -2 \Rightarrow \omega\sin^2 x + 2(4\cos^2 x - 3\cos x) = -2$$

$$\omega\sin^2 x + \wedge\cos^2 x - 12\cos x = -2 \xRightarrow{\times\frac{1}{\sin^2 x}} \omega + \wedge\cot^2 x \times\cos x - \cot x \times\frac{1}{\sin x} = -2$$

$$\frac{\cos^2 x}{\sin^2 x} = \frac{\cos^2 x}{\sin^2 x} \times \frac{\cos x}{1}$$

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$$2\sin(x)\cos(2x) + \sin(x) = 1 \xRightarrow{\times\cos x} \sin(2x)\cos(2x) + \frac{1}{2}\sin(2x) = \cos(x)$$

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$$\frac{1}{\sin\left(\frac{\pi+4x}{2}\right)} + \frac{1}{\cos\left(\frac{\pi}{2}+\wedge x\right)} = \frac{1}{\sin\left(\frac{\pi}{2}+2x\right)} + \frac{1}{\cos\left(\frac{\pi}{2}+4x\right)} = 0$$

$$\cos(2x) \qquad -\sin(4x)$$

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

$$\frac{\pi}{2} \qquad \frac{\pi}{2}$$

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فریبرز غازی

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$$\sin\left(x+\frac{\pi}{4}\right)\cos\left(x-\frac{\pi}{12}\right)=1$$

$$2x+\frac{\pi}{4}-\frac{\pi}{12}=\frac{\pi}{2}\Rightarrow 2x-\frac{3\pi}{18}=\frac{9\pi}{18}\Rightarrow 2x=\frac{12\pi}{18}\Rightarrow x=\frac{6\pi}{18}=\frac{\pi}{3}$$

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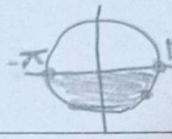
$$\sin x+\sqrt{3}\cos x=\sqrt{2}$$

$$\frac{b}{a}=\frac{\sqrt{3}}{1}\Rightarrow \tan(\alpha)=\sqrt{3}\Rightarrow \alpha=\frac{\pi}{3}$$

$$\sqrt{(\sqrt{3})^2+(1)^2}\sin\left(x+\frac{\pi}{3}\right)=\sqrt{2}\Rightarrow 2\sin\left(x+\frac{\pi}{3}\right)=\sqrt{2}\Rightarrow \sin\left(x+\frac{\pi}{3}\right)=\frac{\sqrt{2}}{2}$$

$$x+\frac{\pi}{3}=2k\pi+\frac{\pi}{4}\Rightarrow x=2k\pi-\frac{\pi}{12}$$

$$x+\frac{\pi}{3}=2k\pi+\pi-\frac{\pi}{4}\Rightarrow x=2k\pi+\frac{5\pi}{12}$$



$\frac{23\pi}{12}$

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$$4\sin x\sin\left(\frac{3\pi}{2}-x\right)=1\Rightarrow 4\sin(x)\times-\cos(x)=1$$

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

$$2x=\frac{7\pi}{4}$$

$$2x=\frac{11\pi}{4}$$

$$x=\frac{7.5\pi}{4}$$

$$x=\frac{0.5\pi}{4}$$

$$\frac{7.5\pi}{4}+\frac{0.5\pi}{4}=\frac{9\pi}{4}=\frac{2\pi}{2}$$

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$$\tan(3x)\tan(x)=1\Rightarrow \tan(3x)=\frac{1}{\tan(x)}$$

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

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

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