نام و نام خانوادگی ......رها(هم) اصیلی...... پاسخنامه تشریحی تکلیف شماره ۲۸..... کلاس یازدهم (B) ریاضی.........

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$$\frac{1}{\sqrt{\cos^2\alpha}} - \frac{1}{\cot\alpha} = \frac{1-\sin\alpha}{|\cos\alpha|} \rightarrow \frac{1}{|\cos\alpha|} - \frac{\sin\alpha}{\cos\alpha} = \frac{1-\sin\alpha}{|\cos\alpha|} \rightarrow \cos\alpha > 0$$

$$\cot\alpha = \frac{\cos\alpha}{\sqrt{1-\cos^2\alpha}} \rightarrow \frac{\cos\alpha}{\sin\alpha} = \frac{\cos\alpha}{\sqrt{1-\cos^2\alpha}} \rightarrow \sin\alpha = \sqrt{1-\cos^2\alpha} \rightarrow \sin\alpha = |\sin\alpha| \rightarrow \sin\alpha > 0$$

ناحیه ۱

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$$-\frac{\pi}{12} < x < \frac{5\pi}{12} \rightarrow -\frac{\pi}{6} < 2x < \frac{5\pi}{6} \rightarrow -\frac{1}{2} < \sin 2x \leq 1 \rightarrow -\frac{1}{2} < \frac{m-1}{4} \leq 1 \rightarrow -2 < m-1 \leq 4$$

$$\rightarrow \boxed{-1 < m \leq 5}$$

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$$\tan x + \cot x = -3 \rightarrow \frac{\sin x}{\cos x} + \frac{\cos x}{\sin x} = -3 \rightarrow \frac{\sin^2 x + \cos^2 x}{\sin x \cos x} = -3 \rightarrow \frac{1}{\sin x \cos x} = -3 \rightarrow \sin x \cos x = -\frac{1}{3}$$

$$\frac{1}{\cos^3 x + \sin^3 x} = \frac{1}{(\sin x + \cos x)\underbrace{(\sin^2 x - \sin x \cos x + \cos^2 x)}_{1+\frac{1}{3}}} \rightarrow \frac{1}{\frac{4}{3}(\sin x + \cos x)} = \frac{1}{\frac{4}{3} \times -\frac{1}{\sqrt{3}}} = \boxed{-\frac{3\sqrt{3}}{4}}$$

$$(\sin x + \cos x)^2 = \underbrace{\sin^2 x + \cos^2 x}_{1} + \underbrace{2\sin x \cos x}_{2 \times -\frac{1}{3}} \rightarrow \sin x \cos x = \pm\frac{1}{\sqrt{3}} \xrightarrow{\frac{3\pi}{2},\ \pi\ x} \sin x \cos x = -\frac{1}{\sqrt{3}}$$

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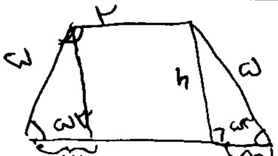

$$S = \frac{4 \times (2+8)}{2} = \boxed{20}$$

$$h = 5 \times \sin 53 = 5 \times 0.8 = 4$$

$$(5)^2 - (4)^2 = 25 - 16 = x^2 = 9 \rightarrow \boxed{x = 3}$$

قاعده بزرگ $= 3 + 3 + 2 = 8$

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$$\tan(285) = \tan(270 + 15) = -\cot 15$$

$$\tan(-165) = -\tan 165 = -\tan(180 - 15) = \tan 15$$

$$\sin(1095) = \sin(1080 + 15) = \sin 15$$

$$\cos(255) = \cos(270 - 15) = -\sin 15$$

$$\tan(285)\tan(-165) - \sin(1095)\cos(255) = -\cot(15)\tan(15) + \sin^2(15) = -1 + \sin^2 15 = \boxed{-\cos^2 15} \qquad \boxed{K = -1}$$

$$\sqrt{۳}\underbrace{\cos(۲۱۰)}_{\frac{-\sqrt{۳}}{۲}}\underbrace{\sin(۱۱۷)}_{\cos۲۷}-\sqrt{۲}\underbrace{\sin(۱۳۵)}_{\frac{۱}{\sqrt{۲}}}\underbrace{\cos(۱۵۳)}_{-\cos۲۷} = \frac{۳}{۲}\cos۲۷+\cos۲۷ = ۲,۵\cos۲۷$$

$$\frac{۲,۵\cos۲۷}{\cos۲۷} = \boxed{۲,۵}$$ ۶

$$f(x)=۱۶\cos^۲(۳x)\cos^۲(۶x)\cos^۲(۱۲x)\cos^۲(۲۴x) \xrightarrow{\times\sin^۲۳x} f(x)\sin^۲۳x=۱۶\sin^۲۳x\cos^۲۳x\cos^۲۶x\cos^۲۱۲x\cos^۲۲۴x$$

$$f(x)\sin^۲۳x=۴\sin^۲۶x\cos^۲۶x\cos^۲۱۲x\cos^۲۲۴x=\sin^۲۱۲x\cos^۲۱۲x\cos^۲۲۴x=\frac{۱}{۴}\sin^۲۲۴x\cos^۲۲۴x=\frac{۱}{۱۶}\sin^۲۴۸x \Longrightarrow$$

$$f(x)=\frac{\sin^۲۴۸x}{۱۶\sin^۲۳x} \qquad f(\frac{\pi}{۳۶})=\frac{\sin^۲\frac{۴۸\pi}{۳۶}}{۱۶\sin^۲\frac{\pi}{۱۲}}=\frac{\sin^۲(\frac{\pi}{۳})}{۱۶\sin^۲\frac{\pi}{۱۲}}=\frac{\frac{۳}{۴}}{۸(۱-\cos\frac{\pi}{۶})}=\frac{۳}{۴\times۸\times(۱-\frac{\sqrt{۳}}{۲})}=\frac{۳}{۱۶(۲-\sqrt{۳})}=\boxed{\frac{۳(۲+\sqrt{۳})}{۱۶}}$$ ۷

$$\frac{۱-\sin x}{۱+\sin x}=۴ \longrightarrow ۱-\sin x=۴(۱+\sin x) \Longrightarrow ۵\sin x=-۳ \Longrightarrow \sin x=-\frac{۳}{۵}$$

$$\sin x=\frac{۲\tan\frac{x}{۲}}{۱+\tan^۲\frac{x}{۲}} \Longrightarrow -\frac{۳}{۵}=\frac{۲\tan\frac{x}{۲}}{۱+\tan^۲\frac{x}{۲}} \Longrightarrow -۳(۱+\tan^۲\frac{x}{۲})=۱۰\tan\frac{x}{۲}$$ ۸

$$۳\tan^۲\frac{x}{۲}+۱۰\tan\frac{x}{۲}+۳=۰ \qquad \tan\frac{x}{۲}=\frac{-۱۰\pm\sqrt{۱۰۰-۳۶}}{۲\times۳}=\frac{-۱۰\pm\sqrt{۶۴}}{۶}=\frac{-۱۰\pm۸}{۶} \qquad \tan\frac{x}{۲}\begin{cases}-۳\\ -\frac{۱}{۳}\times\end{cases}$$

$$\frac{\sin\theta}{۱-\cos\theta}+\frac{۱+\cos\theta}{\sin\theta}=\frac{\sin^۲\theta+۱-\cos^۲\theta}{(۱-\cos\theta)\sin\theta}=\frac{۲\sin^۲\theta}{(۱-\cos\theta)\sin\theta}=\frac{۲\sin\theta}{۱-\cos\theta}=\frac{۴\times\sin\frac{\theta}{۲}\cos\frac{\theta}{۲}}{۲\sin^۲\frac{\theta}{۲}}=\frac{۲\cos\frac{\theta}{۲}}{\sin\frac{\theta}{۲}}=۲\cot\frac{\theta}{۲}$$

$$\boxed{K=۲}$$ ۹

$$A=\cos(\frac{۱۱\pi}{۴}+a)=\cos(۳\pi-\frac{\pi}{۴}+a)=-\cos(a-\frac{\pi}{۴})=-(\cos\alpha\cos\frac{\pi}{۴}+\sin\alpha\sin\frac{\pi}{۴})=-\frac{\sqrt{۲}}{۲}(\sin\alpha+\cos\alpha)$$

$$\sin\alpha=\frac{\sqrt{۲}}{۱۰} \longrightarrow \cos^۲\alpha=۱-\sin^۲\alpha=۱-\frac{۲}{۱۰۰}=\frac{۴۹}{۵۰} \longrightarrow \cos\alpha=-\frac{۷}{۵\sqrt{۲}}=-\frac{۷\sqrt{۲}}{۱۰}$$ ۱۰

$$\xrightarrow[\cos\alpha<۰]{\text{ربع دوم}} A=-\frac{\sqrt{۲}}{۲}(\frac{\sqrt{۲}}{۱۰}-\frac{۷\sqrt{۲}}{۱۰})=\boxed{\frac{۳}{۵}}$$