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نام و نام خانوادگی [illegible] **پاسخنامه تشریحی تکلیف شماره** ۲۸ **کلاس** یازدهم ریاضی B

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انتهای کمان α کدام ناحیه؟

$$\frac{1-\sin\alpha}{|\cos\alpha|}=\frac{1}{\sqrt{\cos^2\alpha}}-\frac{1}{\cot\alpha}=\frac{1}{|\cos\alpha|}-\frac{1}{\cot\alpha}\overset{(1)}{=}\frac{1}{|\cos\alpha|}-\frac{|\sin\alpha|}{\cos\alpha}=\frac{1-\sin\alpha}{|\cos\alpha|}$$

$$\cot\alpha=\frac{\cos\alpha}{\sqrt{1-\cos^2\alpha}}=\frac{\cos}{\sqrt{\sin^2x}}=\frac{\cos}{|\sin|}\ (1)$$

$\cos\alpha>0 \Leftarrow \cos\alpha=|\cos\alpha|$

$\sin\alpha>0 \leftarrow 1-\sin\alpha=1-|\sin\alpha|$

ناحیه اول

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$-\frac{\pi}{12}<x<\frac{5\pi}{12}$, $\sin 2x=\frac{m-1}{4}$, $m?$

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

$-2<m-1\leqslant 4$

$\boxed{-1<m\leqslant 5}$

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$\tan x+\cot x=-3=\frac{2}{\sin 2x}$, $3\pi<4x<4\pi \rightarrow \frac{3\pi}{4}<x<\pi$

$\sin 2x=-\frac{2}{3} \Longrightarrow 1+\sin(2x)=\frac{1}{3}=\cos^2x+\sin^2x+2\sin x\cos x=\frac{1}{3}=(\sin x+\cos x)^2=\frac{1}{3}$

$\cos x+\sin x=\pm\sqrt{\frac{3}{3}}$ (غ ق ق) (1)

$$\frac{1}{\sin^3x+\cos^3x}=\frac{1}{(\sin x+\cos x)(\cos^2x+\sin^2x-\sin x\cos x)}\ (1)\ \frac{1}{\left(-\frac{\sqrt3}{3}\right)\left(\frac{4}{3}\right)}=-\frac{9}{4\sqrt3}$$

$-\frac{1}{2}\sin 2x=\frac{1}{3}$

$=\boxed{-\frac{3\sqrt3}{4}}$

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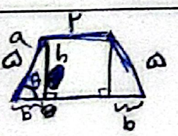

$\cos\theta=0.6 \rightarrow \cos^2\theta+\sin^2\theta=1 \rightarrow \sin^2\theta=0.64 \rightarrow \sin\theta=\pm0.8$ ناحیه θ $\rightarrow \sin\theta=0.8$

$\sin\theta=\frac{h}{a}=\frac{h}{5}=0.8 \rightarrow \boxed{h=4}$

$\cos\alpha=\frac{b}{a}=\frac{b}{5}=0.6 \rightarrow b=3 \longrightarrow$ قاعده بزرگتر $=2b+$ قاعده کوچک $=\boxed{8}$

$S_{\text{ذوزنقه}}=\frac{1}{2}$ (قاعده کوچک + قاعده بزرگ) (ارتفاع) $=\frac{1}{2}(8+2)(4)=\boxed{20}$

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$\tan(285)\tan(-165)-\sin(195)\cos(255)$

$=\tan(\frac{3\pi}{2}+15°)(-\tan(\pi-15°))-\sin(\pi+15°)\cos(\frac{3\pi}{2}-15°)=(-\cot15°)(\tan15°)-((-\sin15°)(-\sin15°))$

$=-1+\sin^2 15=-(1-\sin^2 15)=-\cos^2 15 \rightarrow \boxed{K=-1}$

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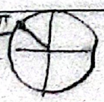
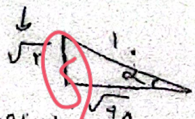
$A = \sqrt{3}\cos(210^\circ)\sin(243^\circ) - \sqrt{2}\sin(135^\circ)\cos(153^\circ) = -\frac{3}{2}\sin(\frac{3\pi}{2}-27^\circ) - \cos(\pi - 27^\circ)$ ($\cos(210^\circ) = -\frac{\sqrt{3}}{2}$ ، $\sin(135^\circ) = \frac{\sqrt{2}}{2}$) $-\frac{3}{2}(-\cos 27^\circ) - (-\cos 27^\circ) = \frac{3}{2}\cos 27^\circ + \cos 27^\circ = \frac{5}{2}\cos 27^\circ$ $\frac{5}{2}$ برابر	۶
$f(x) = 16\cos^2(3x)\cos^2(6x)\cos^2(12x)\cos^2(24x)$ $f(x)\times\sin^2(3x) = 16\times\sin^2(3x)\times\cos^2(3x)\times\cos^2(6x)\times\cos^2(12x)\times\cos^2(24x)$ $\frac{1}{4}\sin^2(6x)$ ، $\frac{1}{4}\sin^2(12x)$ ، $\frac{1}{4}\sin^2(24x)$ ، $\frac{1}{4}\sin^2(48x)$ $f(x) = \frac{\sin^2(48x)}{16\times\sin^2(3x)} \overset{x=\frac{\pi}{36}}{=} \frac{\sin^2(\pi+\frac{4}{12}\pi)}{16\times\sin^2(\frac{1}{12}\pi)} = \frac{\sin^2(\frac{\pi}{3}\pi)}{16\times\sin^2(\frac{\pi}{12})} = \frac{\frac{3}{4}}{16\times\frac{(1-\cos\frac{\pi}{6})}{2}} = \frac{3}{16(2-\sqrt{3})}$	۷
$\frac{1-\sin x}{1+\sin x} = 4 \rightarrow 1-\sin x = 4+4\sin x \rightarrow \sin x = -\frac{3}{5}$ ، ربع ۳ ، $\tan\frac{x}{2}$ ، $\tan x = \frac{3}{4}$ $\tan x = \frac{2\tan\frac{x}{2}}{1-\tan^2(\frac{x}{2})} = \frac{3}{4} = \frac{2\tan\frac{x}{2}}{1-\tan^2(\frac{x}{2})} \Rightarrow 3 - 3\tan^2(\frac{x}{2}) = 8\tan(\frac{x}{2})$ $3\tan^2(\frac{x}{2}) + 8\tan(\frac{x}{2}) - 3 = 0$ یا $\tan^2(\frac{x}{2}) + 8\tan(\frac{x}{2}) - 9 = 0$ $\rightarrow \tan(\frac{x}{2}) <$ $\frac{1}{3}$ ، -3 مقدار صحیح	۸
$\frac{\sin\theta}{1-\cos\theta} + \frac{1+\cos\theta}{\sin\theta} = \frac{2\sin(\frac{\theta}{2})\cos(\frac{\theta}{2})}{2\sin^2(\frac{\theta}{2})} + \frac{2\cos^2(\frac{\theta}{2})}{2\sin(\frac{\theta}{2})\cos(\frac{\theta}{2})} = 2\cot(\frac{\theta}{2})$ $K = 2$	۹
 $\frac{11\pi}{4}$ ؟ $\cos(\frac{11\pi}{4}+\alpha)$ ، $\sin\alpha = \frac{\sqrt{2}}{10}$ ، α ربع دوم  ربع دوم $\cos\alpha = -\frac{\sqrt{98}}{10}$ $\cos(\frac{11\pi}{4}+\alpha) = \cos\frac{11\pi}{4}\times\cos\alpha - \sin\frac{11\pi}{4}\times\sin\alpha$ $= (-\frac{\sqrt{2}}{2})\times(-\frac{\sqrt{98}}{10}) - \frac{\sqrt{2}}{2}\times\frac{\sqrt{2}}{10} = \frac{7}{10} - \frac{1}{10} = 0.6$	۱۰