نام و نام خانوادگی .....رحیم اصیلی..... پاسخنامه تشریحی تکلیف شماره ...۲۰۲... کلاس ...یازدهم B دخترانه.....

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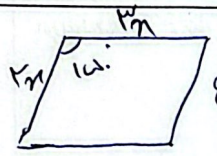

$S_{\text{متوازی الاضلاع}} = 2S_{\text{مثلث}} \Longrightarrow 2\times\frac{1}{2}\times\sin 120^\circ \times 2\sqrt{8}\times 3\sqrt{8} = 24 \Longrightarrow \sqrt{8} = x$

ضلع بزرگ $= 3\sqrt{8}$

ضلع کوچک $= 2\sqrt{8}$

$P = 2(3\sqrt{8}) + 2(2\sqrt{8}) = \boxed{10\sqrt{8}}$

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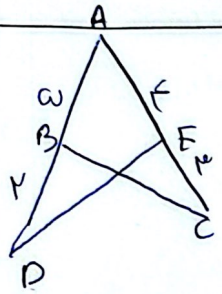

$\sin A\left(\frac{1}{2}\times 5\times 7 - \frac{1}{2}\times 4\times 7\right) = \frac{7}{4} \longrightarrow 7\sin\hat{A} = \frac{7}{2} \longrightarrow \sin\hat{A} = \frac{1}{2}$

$\hat{A} = 30^\circ \longrightarrow \tan\hat{A} = \boxed{\frac{1}{\sqrt{3}}}$

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$\frac{1}{\sqrt{\cos^2\alpha}} - \tan\alpha = \frac{1+\sin\alpha}{|\cos\alpha|} \Longrightarrow \frac{1}{|\cos\alpha|} - \frac{\sin\alpha}{\cos\alpha} = \frac{1+\sin\alpha}{|\cos\alpha|} \xrightarrow{\text{زاویه دوم}} \frac{-1}{\cos\alpha} - \frac{\sin\alpha}{\cos\alpha} = \frac{1+\sin\alpha}{-\cos\alpha}$

$\cos\alpha < 0$ ①

$\frac{|\sin\alpha|}{\cos\alpha} = \frac{-1}{\cot\alpha} \longrightarrow \frac{|\sin\alpha|}{\cos\alpha} = \frac{-\sin\alpha}{\cos\alpha} \xrightarrow{\div} \sin\alpha < 0$ ②

به حاصل یک ودو ← α در ناحیه سوم دایره مثلثاتی است!

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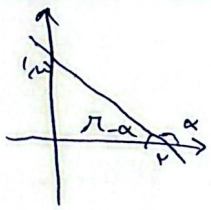
$\tan(\pi-\alpha) = \frac{|-3|}{4} \longrightarrow \tan\alpha = \frac{3}{4}$

$\tan\left(\frac{\pi}{2}-\alpha\right) = \cot\alpha = \frac{1}{\tan\alpha} = \frac{1}{\frac{3}{4}} = \boxed{\frac{4}{3}}$



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$\frac{3\cos(248) - 2\sin(198)}{\sin(202) - \cos(292)} = \frac{3\cos(270-22) - 2\sin(180+22)}{\sin(180+22) - \cos(270+22)} = \frac{-3\sin 22 - 2\sin 22}{-\sin 22 - \sin 22} = \frac{-5\sin 22}{-2\sin 22} = \boxed{\frac{5}{2}}$

$\sin(\alpha+\frac{\pi}{2})=\cos\alpha$ $\quad \sin(\alpha-\pi)=-\sin\alpha$ $\quad \sin^2\alpha=1-\cos^2\alpha=1-\frac{4}{9}=\frac{5}{9}$

$\frac{\sin\alpha}{\cos\alpha}=\tan\alpha=\frac{-\sqrt{5}}{2}$ $\leftarrow$ $\sin\alpha=-\frac{\sqrt{5}}{3}$ $\leftarrow$ $\sin\alpha<0$ $\leftarrow$ (زاویه در ربع سوم)

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$\frac{\cos\alpha+\sin\alpha}{|\tan^2\alpha-1|}=\frac{\frac{2}{3}-\frac{\sqrt{5}}{3}}{|\frac{5}{4}-1|}=\frac{4(2-\sqrt{5})}{3}=\boxed{\frac{8-4\sqrt{5}}{3}}$

$\sin\alpha=2\cos\alpha \Rightarrow \tan\alpha=2$

$1+\tan^2\alpha=\frac{1}{\cos^2\alpha} \Rightarrow \frac{1}{\cos^2\alpha}=1+4=5 \Rightarrow \cos^2\alpha=\frac{1}{5}$ $\xrightarrow[\cos\alpha<0]{\text{زاویه در ربع سوم}}$ $\cos\alpha=\frac{1}{\sqrt{5}}=\boxed{-\frac{\sqrt{5}}{5}}$

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شیب $=\frac{2m}{m^2-1}=\tan 60^\circ \rightarrow \frac{2m}{m^2-1}=\sqrt{3} \rightarrow \sqrt{3}m^2+2m-\sqrt{3}=0$ $\longrightarrow m=\frac{-2\pm\sqrt{4+9}}{2\sqrt{3}}$

$|m_1-m_2|=\frac{2\sqrt{13}}{2\sqrt{3}}=\boxed{\frac{\sqrt{13}}{3}}$

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$-\frac{\pi}{2}<x<\frac{\pi}{2} \rightarrow -\frac{\pi}{4}<-x<\frac{\pi}{4} \rightarrow 0<\frac{\pi}{4}-x<\frac{\pi}{2} \rightarrow \tan(\frac{\pi}{4}-x)>0 \rightarrow \frac{1-m}{2+m}>0$

	-2		1
$1-m$	$+$	$+$	0
$2+m$	$-$	$+$	$+$

$\therefore \boxed{-2<m<1}$

۹

$\tan 300=\tan(360-60)=-\tan 60=-\sqrt{3}$

$\cos 210=\cos[180+30]=-\cos 30=\frac{-\sqrt{3}}{2}$

$\tan 480=\tan(360+120)=\tan(90\times 4+30)=-\cot 30=-\sqrt{3}$

$\sin 840=\sin(720+120)=\cos 30=\frac{\sqrt{3}}{2}$

$\tan 300\cos 210+\tan 480\sin 840=(-\sqrt{3})(\frac{-\sqrt{3}}{2})+(-\sqrt{3})(\frac{\sqrt{3}}{2})=0$

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