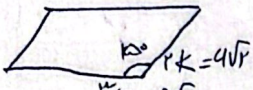
نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ..... کلاس .....

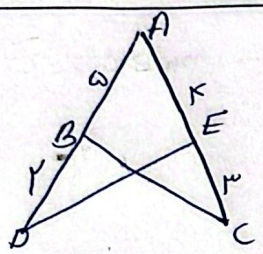
۱



$S=ab\sin\alpha \rightarrow 9\sqrt{2}=2k\times 3k\times \sin 120^\circ \rightarrow 9k^2=108$

$\rightarrow k^2=18 \rightarrow k=3\sqrt{2}$ محیط $=2(9\sqrt{2}+9\sqrt{2})=36\sqrt{2}$

۲



$\left|\frac{1}{2}\times 4\times 7\times\sin A-\frac{1}{2}\times 5\times 7\times\sin A\right|=1/75$

$\frac{7}{2}\sin A=\frac{175}{100}=\frac{7}{4} \rightarrow \sin\hat{A}=\frac{1}{2} \rightarrow \hat{A}=30^\circ$

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

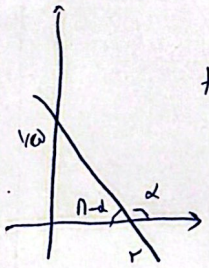
۳

$-\tan\alpha=\frac{|\sin\alpha|}{\cos\alpha} \rightarrow \sin\alpha<0$

$\frac{1}{|\cos\alpha|}-\frac{\sin}{\cos}=\frac{1+\sin\alpha}{|\cos\alpha|} \rightarrow -\frac{\sin}{\cos}=\frac{1+\sin\alpha-1}{|\cos\alpha|}$

$\frac{-\sin\alpha}{\cos\alpha}=\frac{\sin\alpha}{|\cos\alpha|} \rightarrow \cos\alpha<0$ ناصفر $\begin{cases}\sin\alpha<0\\ \cos\alpha<0\end{cases}$

۴



$\tan(\pi-\alpha)=\frac{12-5}{2} \rightarrow \tan\alpha=\frac{-3}{4}$

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

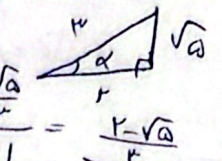
۵

$\frac{3\cos(270-22)-2\sin(180-22)}{\sin(180+22)-\cos(270+22)}=\frac{-3\sin 22^\circ-2\sin 22^\circ}{-\sin 22^\circ-\sin 22^\circ}=\frac{-5\sin 22^\circ}{-2\sin 22^\circ}=\frac{5}{2}=$

۲/۵

۶

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



۷

$$\sin\alpha=2\cos\alpha \longrightarrow \sin^2\alpha+\cos^2\alpha=1 \longrightarrow 5\cos^2\alpha=1 \longrightarrow \cos^2\alpha=\frac{1}{5}$$

$$\cos\alpha=\overset{\text{چهارم}}{\ominus}\frac{1}{\sqrt{5}}=-\frac{1}{\sqrt{5}}=-\frac{\sqrt{5}}{5}$$

۸

$$\tan 60^\circ=\sqrt{3} \longrightarrow \frac{-2m}{m^2-1}=\sqrt{3} \longrightarrow \sqrt{3}m^2-\sqrt{3}+2m=0$$

$$\longrightarrow m=\frac{-2\pm\sqrt{4+3}}{2\sqrt{3}} \longrightarrow |m_1-m_2|=\frac{2\sqrt{7}}{2\sqrt{3}}=\frac{\sqrt{7}}{\sqrt{3}}$$

۹

$$-\frac{\pi}{4}<x<\frac{\pi}{4}$$

$$\frac{\pi}{4}>-x>-\frac{\pi}{4}$$

$$\frac{\pi}{2}>\frac{\pi}{4}-x>0 \longrightarrow 0<\tan\left(\frac{\pi}{4}-x\right)<1$$

$$0<\frac{1-m}{2+m}<1$$

$$m\in(-2,1)$$

۱۰

$$\tan\left(\frac{5\pi}{3}\right)\times\left(\cos\frac{\pi}{4}\right)+\tan\left(\frac{2\pi}{3}\right)\times\sin\left(\frac{2\pi}{3}\right)=$$

$$-\sqrt{3}\times\frac{-\sqrt{2}}{2}+\left(-\sqrt{3}\times\frac{\sqrt{3}}{2}\right)=\frac{3}{2}-\frac{3}{2}=0$$