نام و نام خانوادگی: زهرا سادات حسینی، تلفن: ۲۶، کلاس: یازدهم هنرB

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① $S = 2\alpha \times 2\alpha \times \sin 150^\circ = \frac{4\alpha^2}{2} = 8 \rightarrow \alpha = 2\sqrt{2}$

$2\alpha = 4\sqrt{2}$

$3\alpha = 6\sqrt{2}$

$\rightarrow P_{ABC} = 2(4\sqrt{2} + 6\sqrt{2}) = 20\sqrt{2}$

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② $S_{ABC} = \frac{8 \times 7}{2} \sin A$

$S_{ADE} = \frac{6 \times 7}{2} \sin A$

$\rightarrow \frac{35 - 24}{2} \sin A = \frac{7 \sin A}{2} = 1.75$

$\sin A = \frac{1}{2} \Rightarrow \cos A = \frac{\sqrt{3}}{2}$

$\tan A = \frac{\sqrt{3}}{3}$

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③ $\frac{|\sin\alpha|}{\cos\alpha} = -\frac{\sin\alpha}{\cos\alpha}$, $\frac{1}{|\cos\alpha|} - \frac{\sin\alpha}{\cos\alpha} \rightarrow \frac{1}{|\cos\alpha|} + \frac{\sin\alpha}{|\cos\alpha|}$

$\cos < 0$

$\sin < 0$

ناحیه سوم

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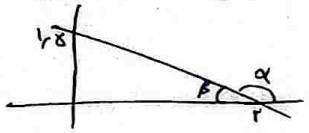
④ $\tan\left(\frac{\pi}{2} - \alpha\right) = \cot\alpha = -\frac{2}{1.5} = -\frac{4}{3}$

$\cot\alpha = -\cot\beta \leftarrow \alpha, \beta$ مکمل



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⑤ $\sin 202^\circ = \sin(180^\circ + 22^\circ) = -\sin 22^\circ$

$\cos 292^\circ = \cos(270^\circ + 22^\circ) = \sin 22^\circ$

$\cos 248^\circ = \cos(270^\circ - 22^\circ) = -\sin 22$

$\sin 158^\circ = \sin(180 - 22^\circ) = \sin 22$

$\frac{-3\sin 22^\circ - 2\sin 22^\circ}{-\sin 22^\circ - \sin 22^\circ} = \frac{-5\sin 22^\circ}{-2\sin 22^\circ} = \frac{5}{2}$

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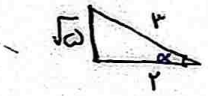
⑥ $\frac{\cos\alpha + \sin\alpha}{|\tan^2\alpha - 1|}$



$\sin < 0$, $\cos > 0$ ناحیه ۴

$\sin\alpha = -\frac{\sqrt{5}}{3}$

$\cos\alpha = \frac{2}{3}$

$\tan\alpha = -\frac{\sqrt{5}}{2}$

$\frac{\frac{2}{3} - \frac{\sqrt{5}}{3}}{\frac{1}{4}} = \frac{4(2 - \sqrt{5})}{3}$

(۷) $\sin\alpha$ و $\cos\alpha$ ناهم‌علامت

$1-\sin^2\alpha=\cos^2\alpha \rightarrow 1-4\cos^2\alpha=\cos^2\alpha$

$\frac{1}{5}=\cos^2\alpha \rightarrow \cos\alpha=-\frac{1}{\sqrt{5}}$

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(۸)

$y=\frac{3-2mx}{m^2-1} \rightarrow y=\frac{-2m}{m^2-1}x+\frac{3}{m^2-1}$

$\text{شیب}=\tan 60^\circ=\sqrt{3} \Rightarrow \frac{-2m}{m^2-1}=\sqrt{3} \rightarrow \sqrt{3}m^2-\sqrt{3}+2m=0$

$\Delta=b^2-4ac=4+12=16 \rightarrow m=\frac{-2\pm 4}{2\sqrt{3}} \rightarrow \left|\frac{-3}{3\sqrt{3}}-\frac{1}{\sqrt{3}}\right|=\left|-\frac{4}{\sqrt{3}}\right|=\frac{4}{\sqrt{3}}$

۲ واحد اختلاف

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(۹)

$-\frac{\pi}{4}<x<\frac{\pi}{4} \rightarrow 0<-\frac{\pi}{4}+x<\frac{\pi}{2}$

$\tan 60 \rightarrow \frac{1-m}{2+m}>0 \rightarrow m\in(-2,1)$

کران

ربع اول

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(۱۰)

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

$\cos 210^\circ=\cos(180^\circ+30^\circ)=-\frac{\sqrt{3}}{2}$

$\tan 240^\circ=\tan(270^\circ-30^\circ)=+\sqrt{3}$

$\sin 150^\circ=\sin(180-30)=\frac{\sqrt{3}}{2}$

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