نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۲۲ ..... کلاس ..... A .....

۱

$S = 2x \cdot 2y \cdot \sin 135^\circ = 2m^2 \times \frac{1}{2} = 2m^2 = 5x^2 \quad x^2 = 18 \quad x = \sqrt{18}$

$\text{محیط} = 2(4x + 2x) = 10x = 10\sqrt{18}$

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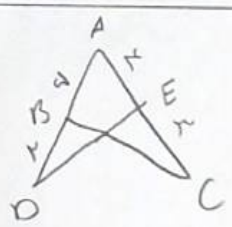

$S_{ABC} = \frac{1}{2} \times 5 \times 7 \times \sin \hat{A}$

$S_{ADE} = \frac{1}{2} \times 4 \times 7 \times \sin \hat{A}$

$S_{ABC} - S_{ADE} = 1,75$

$\left(\frac{1}{2} \times 7 \sin \hat{A}\right)(5 - 4) = 1,75$

$\sin \hat{A} = \frac{1,75}{3,5} = \frac{1}{2}$

$\hat{A} = 30^\circ$

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

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

$\rightarrow$ به ازای $\cos \alpha \leq 0$

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

$\rightarrow$ ناحیه سوم

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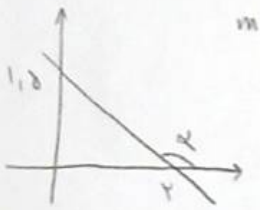

$m = \frac{1,5}{2} = \frac{3}{4} \rightarrow \tan(\pi - \alpha) = \frac{3}{4} \rightarrow \tan \alpha = -\frac{3}{4}$

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

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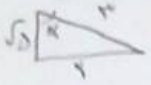
$\frac{2\cos(248) - 2\sin(158)}{\sin(202) - \cos(292)} = \frac{2\cos\left(\frac{3\pi}{2} - \alpha\right) - 2\sin(\pi - \alpha)}{\sin(\pi + \alpha) - \cos\left(\frac{3\pi}{2} + \alpha\right)} = \frac{-2\sin\alpha - 2\sin\alpha}{-\sin\alpha - \sin\alpha}$

$\frac{-5\sin\alpha}{-2\sin\alpha} = \frac{5}{2} = 2,5$



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

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

$$\frac{\sin\left(\frac{\pi}{2}+\alpha\right) - \sin(\pi-\alpha)}{|\tan^2\alpha - 1|} = \frac{(\cos\alpha) - (-\sin\alpha)}{|\tan^2\alpha - 1|} \Rightarrow$$

$$\frac{\frac{2}{3} - \frac{\sqrt{5}}{3}}{\left|\frac{4}{5} - 1\right|} = \frac{\frac{2-\sqrt{5}}{3}}{\frac{1}{5}} = \frac{10 - 5\sqrt{5}}{3}$$

(۴)

$\sin\alpha = 2\cos\alpha$

$\sin^2\alpha + \cos^2\alpha = 1$

$(2\cos\alpha)^2 + \cos^2\alpha = 1 \rightarrow 5\cos^2\alpha = 1 \rightarrow \cos^2\alpha = \frac{1}{5}$ $\quad \cos\alpha = \underset{\text{ق ق}}{\pm}\frac{1}{\sqrt{5}}$

انتهای کمان در ربع اول است.

۲

$2mx + (m^2-1)y = 2 \longrightarrow y = \frac{-2m}{(m^2-1)}x + \frac{2}{m^2-1} \rightarrow \frac{-2m}{m^2-1} = +\tan 60^\circ = \sqrt{3}$

$\sqrt{3}m^2 + 2m - \sqrt{3} = 0 \rightarrow m^2 + 2m - 3 = 0 \longrightarrow (m+3)(m-1) = 0 \rightarrow m = \frac{-3}{\sqrt{3}}, \frac{1}{\sqrt{3}}$

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$\text{انتها} = \frac{1}{\sqrt{3}} + \frac{\sqrt{3}}{\sqrt{3}} = \frac{2}{\sqrt{3}}$

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(1) $\frac{x}{2} - x > 0 \rightarrow 2\frac{1-m}{2+m} < 1 \longrightarrow 2\frac{1-m}{2+m} \sim$

	-2	1
$-$	$+$	$-$

$\rightarrow (-2, 1)$ (2)

$\frac{1-m}{2+m} + \frac{-2-m}{2+m} > 2 \quad \frac{-2m-1}{2+m} > 2 \sim$

	-2	$-\frac{1}{2}$
$-$	$+$	$-$

$\sim \left(-2, -\frac{1}{2}\right)$ (22)

$(22) \cup (2) \Longrightarrow \left(-2, -\frac{1}{2}\right)$

۹

$\tan(300^\circ) = \frac{-\sqrt{3}}{2}$

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

$\tan(480^\circ) = \tan(120^\circ) = -\sqrt{3}$

$\sin(450^\circ) = \sin(120^\circ) = \frac{\sqrt{3}}{2}$

$\tan(300^\circ)\cos(210^\circ) + \tan(480^\circ)\sin(450^\circ)$

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

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

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