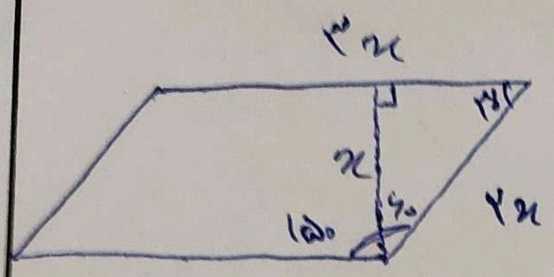
۱۷٫۷۵

نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۲۶ ..... کلاس ..... A .....



$S = x \times 3x = 54 \Rightarrow 3x^2 = 54 \Rightarrow x^2 = 18 \Rightarrow$ [illegible]

$x = 3\sqrt{2}$ ✓ ، $x = -3\sqrt{2}$ ✓

دقت: $x = 6\sqrt{2}$ ، $3x = 9\sqrt{2}$

$P = 2(6\sqrt{2} + 9\sqrt{2}) = 30\sqrt{2}$

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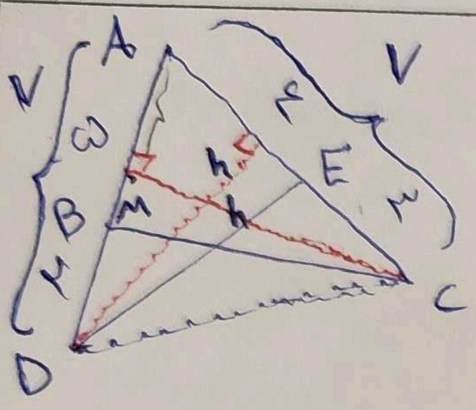

$\hat{D} = \hat{C}$

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

$\frac{AB \times h}{2} - \frac{AE \times h}{2} = 1{,}75$

$\frac{5 \times h}{2} - \frac{4 \times h}{2} = 1{,}75 \Rightarrow \frac{h}{2} = 1{,}75 \Rightarrow h = 3{,}5$

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

$\tan = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{4}} = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3} \Rightarrow \tan 30°$ ✓

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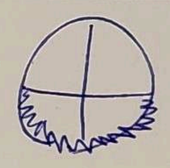
(I) $\frac{|\sin x|}{\cos x} = (-)\frac{1}{\cot x}$

$\pi < \sin x < 2\pi$ ✓

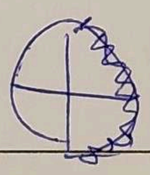


ربع ۳ و ۴

ثابت بماند

(II) $\frac{1}{|\cos x|} - \frac{\sin x}{\cos} \cdot \frac{(1 - \sin x)}{|\cos x|}$

$-\frac{\pi}{2} < \cos < \frac{\pi}{2}$ ربع اول و چهارم



ربع چهارم = I ∪ II

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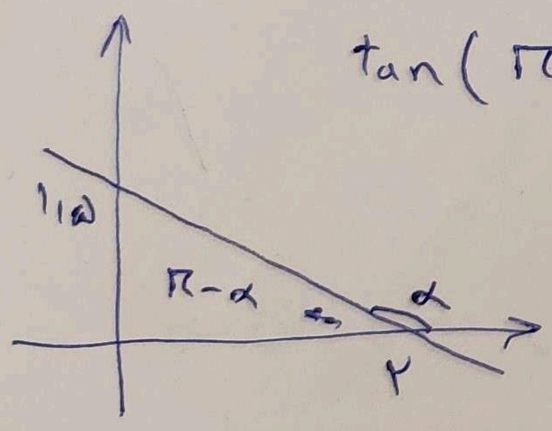

$\tan(\pi - \alpha) = \frac{1.5}{2} = \frac{3}{4} \Rightarrow -\tan\alpha = \frac{3}{4} \Rightarrow \tan\alpha = -\frac{3}{4}$

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

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$\frac{2\cos\left(\frac{3\pi}{2} - 2x\right) - 2\sin(\pi - 2x)}{\sin(\pi + 2x) - \cos\left(\frac{3\pi}{2} + 2x\right)} = \frac{-3\sin 2x - 2\sin 2x}{-\sin 2x - \sin 2x} = \frac{-5\sin 2x}{-2\sin 2x} = \frac{5}{2}$ ✓

$2\cos\left(\frac{3\pi}{2} - 2x\right) \Rightarrow -3\sin 2x$

$\cos\left(\frac{3\pi}{2} + 2x\right) \Rightarrow \sin 2x$

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$\cos\alpha = \frac{2}{\sqrt{5}} \Rightarrow \sin^2\alpha - \cos^2\alpha = 1 \Rightarrow \sin^2\alpha = \frac{5}{9} \rightarrow \sin\alpha = -\frac{\sqrt{5}}{3}$ ربع ۴

$\tan\alpha = \frac{\sqrt{5}/3}{2/3} = \frac{\sqrt{5}}{2}$ $\xrightarrow{\text{صورت سوال}}$ $\frac{\cos\alpha + \sin\alpha}{|\tan^2\alpha - 1|} = \frac{\frac{2 - \sqrt{5}}{3}}{|\frac{1}{4} - 1|} = \frac{4(2-\sqrt{5})}{3}$ (۱/۷۵)

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$\sin\alpha = 2\cos\alpha \xrightarrow{\div\cos\alpha} \tan\alpha = 2$ $\quad 1 + \tan^2 = \frac{1}{\cos^2} \Rightarrow 5 = \frac{1}{\cos^2}$

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

(۲)

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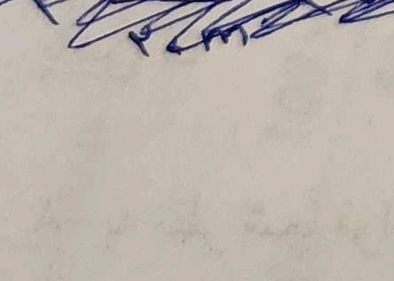

$2mx + (m^2-1)y = 3$

$\begin{cases} y = \frac{-2mx}{m^2-1} + \frac{3}{m^2-1} \\ \tan\alpha = \sqrt{3} \end{cases}$ (۱/۵)

$\frac{-2m}{m^2-1} = \sqrt{3} \Rightarrow \sqrt{3}m^2 - \sqrt{3} = -2m$

$\sqrt{3}m^2 + 2m - \sqrt{3} = 0$ ✓ $\quad m = \frac{-2 \pm \sqrt{\frac{2}{\sqrt{3}}}}{\frac{6}{\sqrt{3}}}$

$|m_2 - m_1| = \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{4 - 4(-\sqrt{3})(\sqrt{3})}}{\sqrt{3}} = \frac{4}{\sqrt{3}}$

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$-\frac{\pi}{4} < \alpha < \frac{\pi}{4} \rightarrow -\frac{\pi}{4} < -\alpha < \frac{\pi}{4} \rightarrow 0 < \frac{\pi}{4} - \alpha < \frac{\pi}{2} \rightarrow 0 < \tan(\frac{\pi}{4} - \alpha) < \infty$

$0 < \frac{1-m}{2+m} < \infty$ (۲)

$\Downarrow$

$-2 < m < 1$ ✓

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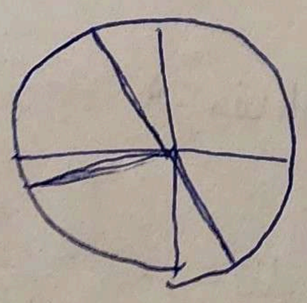

$\tan(300) = -\sqrt{3}$

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

$\tan(810) \Rightarrow \tan(120) = -\sqrt{3}$

$\sin(810) \Rightarrow \sin(120) = \frac{\sqrt{3}}{2}$

$-\sqrt{3} \times -\frac{\sqrt{3}}{2} = \frac{3}{2}$

$-\sqrt{3} \times \frac{\sqrt{3}}{2} = \frac{-3}{2}$

$\frac{3}{2} + (-\frac{3}{2}) = 0$ ✓

(۲)

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۳- رابطه اول ←

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

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

$\Longrightarrow$ ربع سوم

رابطه دوم ←

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