ترانه طاهریان - تکلیف ۲۷ - یازدهم دختر

۱۹

۱- $S_{\text{متوازی الاضلاع}} = a \times b \times \sin\theta \Rightarrow 18\sqrt{2} = a \times \frac{3}{2}a \times \sin 45^\circ$

$\Rightarrow \frac{3}{4}a^2 = 18\sqrt{2} \times \frac{2}{\sqrt{2}} \Rightarrow a^2 = 18 \times 4 = 72$ (۱/۲)

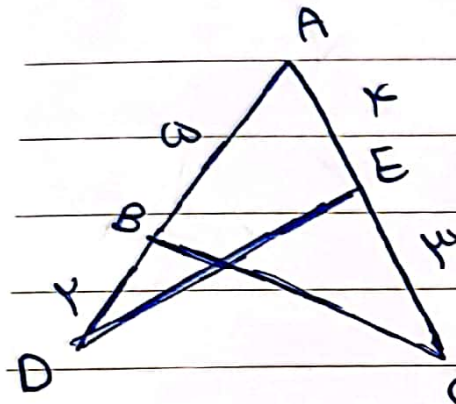
$\Rightarrow a = 6\sqrt{2}$ (۱)

$b = \frac{3}{2} \times 6\sqrt{2} = 9\sqrt{2}$

$\text{محیط متوازی الاضلاع} = 2 \times (6\sqrt{2} + 9\sqrt{2}) = 30\sqrt{2}$

$6\sqrt{2} + 9\sqrt{2} = 15\sqrt{2}$

۲-



$|S_{ABC} - S_{ADE}| = 1,75$ (۱)

$\left|\frac{1}{2} \times AB \times AC \times \sin\hat{A} - \frac{1}{2} AD \times AE \times \sin\hat{A}\right|$ (۱)

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

$\Rightarrow \sin\hat{A} = \frac{1}{2} \Rightarrow \hat{A} = 30^\circ \Rightarrow \tan\hat{A} = \frac{\sqrt{3}}{3}$

گزینه ۴

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

گزینه ۳

$$\frac{1}{\sqrt{\cos^2\alpha}} - \frac{\sin\alpha}{\cos\alpha} = \frac{1}{|\cos\alpha|} + \frac{\sin\alpha}{|\cos\alpha|} \Rightarrow \frac{-\sin\alpha}{\cos\alpha} = \frac{\sin\alpha}{|\cos\alpha|}$$

$$\Rightarrow -\cos\alpha = |\cos\alpha| \Rightarrow \cos\alpha < 0$$

α در ناحیه‌ی سوم قرار دارد.

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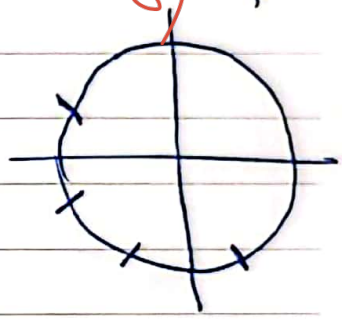
$\tan\alpha = \frac{\Delta y}{\Delta x} = \frac{-1,\omega}{\mu} = -\frac{\mu}{\kappa}$ -۶

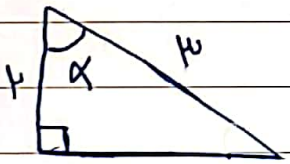
$\tan\left(\frac{\pi}{\mu} - \alpha\right) = \cot\alpha = \boxed{\frac{-\kappa}{\mu}}$

$\frac{\mu\cos(\mu\kappa\Lambda^\circ) - \mu\sin(1\omega\Lambda^\circ)}{\sin(\mu\circ\mu^\circ) - \cos(\mu\mu\mu)^\circ} = \frac{\mu\cos\left(\frac{\mu\pi}{\mu} - \mu\mu^\circ\right) - \mu\sin(\pi - \mu\mu^\circ)}{\sin(\pi + \mu\mu^\circ) - \cos\left(\frac{\mu\pi}{\mu} + \mu\mu^\circ\right)}$ -۵

$= \frac{-\mu\sin\mu\mu^\circ - \mu\sin\mu\mu^\circ}{-\sin\mu\mu^\circ - \sin\mu\mu^\circ} = \frac{-\omega\sin\mu\mu^\circ}{-\mu\sin\mu\mu^\circ}$

$= \frac{\omega}{\mu} = \boxed{\mu,\omega}$





$\sqrt{9-\epsilon} = \sqrt{\omega}$

$\tan\alpha = \frac{\sqrt{\omega}}{\mu} \Rightarrow \tan^\mu\alpha - 1 = \frac{\omega}{\kappa} - 1 = \frac{1}{\kappa}$ -۴

$\sin\alpha = -\frac{\sqrt{\omega}}{\mu}$

$\frac{\sin\left(\frac{\pi}{\mu} + \alpha\right) - \sin(\alpha - \pi)}{\frac{1}{\kappa}} = \kappa\times(\cos\alpha + \sin\alpha)$

$= \kappa\times\frac{\mu - \sqrt{\omega}}{\mu} = \boxed{\frac{\Lambda - \kappa\sqrt{\omega}}{\mu}}$

$\sin^\mu\alpha + \cos^\mu\alpha = 1 \Rightarrow \kappa\cos^\mu\alpha + \cos^\mu\alpha = 1$ -۷

$\Rightarrow \omega\cos^\mu\alpha = 1 \Rightarrow \cos^\mu\alpha = \frac{1}{\omega} \Rightarrow \cos\alpha = \frac{+}{-}\frac{1}{\sqrt{\omega}}$

$\cos\alpha = -\frac{1}{\sqrt{\omega}} = -\frac{\sqrt{\omega}}{\omega}$ (ربع سوم)

$\cos\alpha < 0$

۸- $2mx + (m^2-1)y = 3 \Rightarrow (m^2-1)y = 3 - 2mx$

$$\Rightarrow y = \frac{-2m}{m^2-1}x + \frac{3}{m^2-1} \Rightarrow \frac{-2m}{m^2-1} = \tan 60^\circ = \sqrt{3}$$

شیب خط (زیر $\frac{-2m}{m^2-1}$)

(۴)

$$\Rightarrow \sqrt{3}m^2 - \sqrt{3} + 2m = 0$$

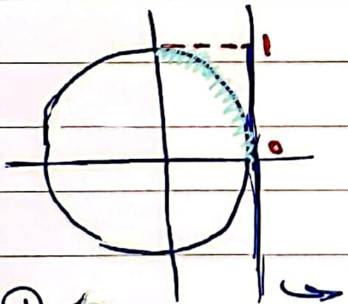
$$\Delta = b^2 - 4ac = 4 + 4\times\sqrt{3}\times\sqrt{3} = 16$$

$$m = \frac{-2 \pm \sqrt{16}}{2\sqrt{3}} \quad m_1 = \frac{1}{\sqrt{3}}, \quad m_2 = \frac{-3}{\sqrt{3}}$$

اختلاف $= \frac{4}{\sqrt{3}} = \boxed{\frac{4\sqrt{3}}{3}}$

۹-

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



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

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

(۱)

محور تانژانت‌ها

(1) $\frac{1-m}{2+m} > 0$ → (−۲)

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

$\frac{1-m-2-m}{2+m} < 0 \Rightarrow \frac{-1-2m}{m+2} < 0$ → (2), $\left(-\frac{1}{2}\right)$

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

$$\boxed{m \in \left(-\frac{1}{2}, 1\right)}$$

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

$\frac{1-m}{2+m} > 0 \to m \in (2,1)$ ← تانژانت (+) ← کمان در ربع اول است

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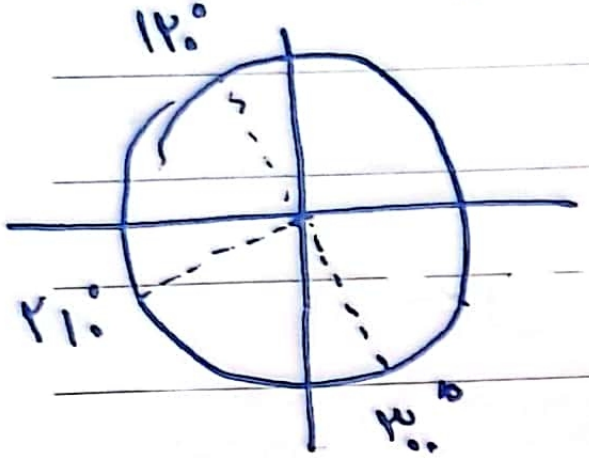
$\tan(300^\circ)\cos(210^\circ) + \tan(480^\circ)\sin(840^\circ) = -1$



$480^\circ - 360^\circ = 120^\circ$

$840^\circ - 720^\circ = 120^\circ$

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

$\frac{3}{2} - \frac{3}{2} = \boxed{0}$