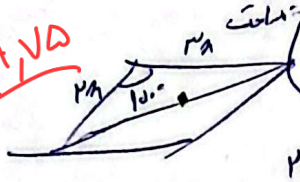
۱۹ ۷۵



$\left(\frac{1}{2}\times 28\times 28\times \sin 105^\circ\right)\times 2 = 96 \Longrightarrow 784\times\frac{1}{2} = 96 \Rightarrow 28^2 = 196 \Rightarrow a = 14$ ✓

$a = 14\sqrt{2}$ ✓

۱,۷۵

$28 = 9\sqrt{2}$ ✓

$28 = 9\sqrt{2} \Longrightarrow 10\sqrt{2}\times 2$ ~~$\times\sqrt{2}$~~ (سیم)

دقت!

محیط $= 2(28 + 28) = 10\sqrt{2} = 30\sqrt{2}$

سینکی خان آر!

$S(ABC) = AB\times AC\times \sin\hat{A}\times\frac{1}{2} \Longrightarrow 8\times 7\times\frac{1}{2}\times\sin\hat{A} = \frac{28}{2}\sin\hat{A}$

$S(ADE) = AD\times AE\times\sin A\times\frac{1}{2}$ $\Longrightarrow 7\times 4\times\frac{1}{2}\times\sin\hat{A} = \frac{14}{2}\sin\hat{A}$

تشابه $\Longrightarrow \frac{7}{2}\sin A = \frac{14}{4} \Rightarrow \sin\hat{A} = \frac{1}{2}$

۲ -۲

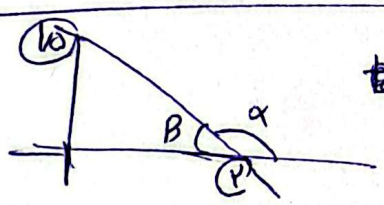
$\sin A = \frac{1}{2} \Rightarrow \cos = \frac{\sqrt{3}}{2} \Rightarrow \tan = \frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$ ✓

$\frac{1}{|\cos|\alpha} + \frac{\sin\alpha}{\cos\alpha} = \frac{1+\sin\alpha}{|\cos|}$ $\Longrightarrow \frac{\sin\alpha}{\cos\alpha} = \frac{-\sin\alpha}{|\cos|} \Rightarrow |\cos_\alpha| = -\cos_\alpha \Rightarrow$ $\cos_\alpha < 0$ ①

۲ -۳

$\frac{|\sin|}{\cos\alpha} = \frac{-\sin}{\cos\alpha} \Rightarrow \sin < 0$ ②

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



$\cot\alpha = -\cot\beta$

$\cot\beta = \frac{2}{15} = \frac{4}{3} \Rightarrow \cot\alpha = -\frac{4}{3}$ ✓

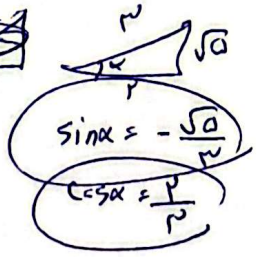
۲ -۴

$\frac{2\sin 44 - \sin 44 - 2\sin 22}{-\sin 44 - \sin 44} = \frac{-2\sin 22}{-2\sin 22} = \frac{2}{2}$ ✓

$\frac{2\cos\left(\frac{\pi}{2} - 44\right) - 2\sin(\pi - 44)}{\sin(\pi + 44) - \cos\left(\frac{\pi}{2} + 44\right)}$

۲ -۵

$\frac{\cos\alpha + \sin}{|\tan^2 - 1|} = \frac{2 - \sqrt{5}}{3} \times \frac{1}{4} = \frac{1 - 2\sqrt{5}}{3}$ ✓ (با توجه به α $\Longrightarrow$ $\cos +$, $\sin -$)



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

$\tan^2 = \frac{5}{4}$

۲ -۶

۷- سینوس و کسینوس زاویه‌ها

$\sin\alpha = 2\cos\alpha$ (با توجه به α در ناحیه‌ی $\cos < 0$ و $\sin < 0$)

$\sin^2 + \cos^2 = 1 \Rightarrow 4\cos^2 + \cos^2 = 1 \Rightarrow \cos^2 = \frac{1}{5} \Rightarrow \cos = \pm\frac{1}{\sqrt{5}}$ (۲)

$-\frac{1}{\sqrt{5}}$ ✓

$+\frac{1}{\sqrt{5}}$ غ ق ق α

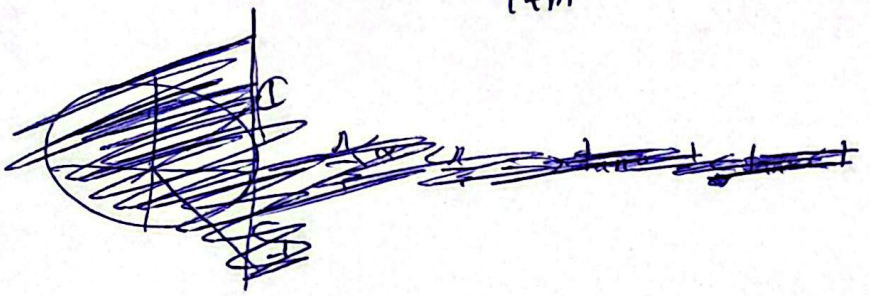
۸- زاویه‌ی α $\Rightarrow \tan\alpha = \sqrt{3} =$ شیب خط $\frac{-2m}{m^2-1} = \sqrt{3} \Rightarrow \sqrt{3} - \sqrt{3}m^2 = 2m$ (۲)

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

اختلاف ریشه‌ها $= \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{b^2-4ac}}{\sqrt{3}} = \frac{4}{\sqrt{3}}$ ✓

۹- $\tan\left(\frac{\pi}{4} - \alpha\right) = \frac{1-m}{2+m}$ $\tan\left(\frac{\pi}{4} - \frac{\pi}{4}\right) = \tan(0) = 0$ ، $\tan\left(\frac{\pi}{4} - \left(-\frac{\pi}{4}\right)\right) =$ تعریف نشده

حالا به صورت تعیین علامت کنید (۲)



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

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

$-2 < m < 1$ ✓

۱۰- $(\tan 2\alpha)(\cos 2\alpha) + \tan(12\alpha) \times \sin(12\alpha) = -\frac{\sqrt{3}}{2} \times -\frac{\sqrt{3}}{2} + -\sqrt{2} \times \frac{\sqrt{2}}{2} =$ (۲)

$+\frac{3}{2} - \frac{3}{2} = 0$ ✓