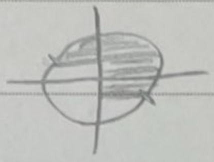
زهرا جیحانی یازدهم مشترک تکلیف ۲۸

۱ـ $\frac{1}{|\cos\alpha|} - \frac{\sin\alpha}{\cos\alpha} = \frac{1-\sin\alpha}{|\cos\alpha|} \Rightarrow \underline{\cos\alpha > 0}$

$\frac{\cos\alpha}{\sin\alpha} = \frac{\cos\alpha}{|\sin\alpha|} \to \underline{\sin\alpha > 0}$ در ناحیه اول

۲ـ $-\frac{\pi}{۶} < ۲x < \frac{۵\pi}{۶}$

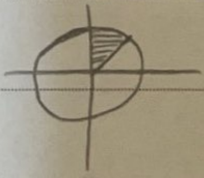


$\frac{m-1}{۴} = 1 \to m = ۵$

$-\frac{1}{۲} < \sin ۲x \leq 1 \rightsquigarrow \frac{m-1}{۴} = -\frac{1}{۲} \to m = -1$

$\boxed{-1 < m \leq ۵}$

۳ـ $\pi < ۴x < ۲\pi \to \frac{\pi}{۴} < x < \frac{\pi}{۲}$



$\frac{\sin\alpha}{\cos\alpha} + \frac{\cos\alpha}{\sin\alpha} = -۳$

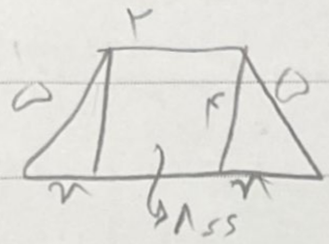
$= \frac{1}{\sin\cos} = -۳ \to -۳\sin\cos\alpha = 1 \to \sin\cos = -\frac{1}{۳}$

$\underbrace{\sin^۲ + \cos^۲}_{1} - \frac{۲}{۳} = \frac{1}{۳} \to \sin + \cos = \pm\frac{1}{\sqrt{۳}}$

$\frac{۳\pi}{۴} < x < \pi \to \sin x + \cos x < 0 \to -\frac{1}{\sqrt{۳}}$

$\frac{1}{\sin^۳ + \cos^۳} = \boxed{\frac{-۳\sqrt{۳}}{۴}}$

۴-



$\cos\theta = \frac{x}{۵} = ۰/۶ \rightarrow \underline{x=۳}$

$S_{کل} = ۲(۶)+۸ = \boxed{۲۰}$

$S = \frac{۳\times۴}{۲} = ۶ = S$

۵-

$\Rightarrow k\cos^۲ ۱۵° \rightarrow \tan(\frac{۳\pi}{۲}+۱۵)\tan(۱۵-\pi) \Rightarrow -۱$

$-\sin ۱۵ \cos(\frac{۳\pi}{۲}-۱۵) = -\sin ۱۵° \rightarrow -۱+\sin^۲ ۱۵ = -\cos^۲ ۱۵$

$\boxed{k=-۱}$

۶-

$A = \sqrt{۳}\cos(۲۱۰°)\sin(۲۴۳$

$-\sqrt{۲}\sin(۱۳۵°)\cos(۱۵۳°) = \sqrt{۳}(-\frac{\sqrt{۳}}{۲})\sin(\frac{۳\pi}{۲}-۲۷°) - \sqrt{۲}(\frac{\sqrt{۲}}{۲})$

$(\cos(\pi-۲۷)) \rightarrow \frac{۳}{۲}\cos ۲۷ + \cos ۲۷ = \frac{۵}{۲}\cos ۲۷°$

$\rightarrow \boxed{\frac{۵}{۲۰}}$

۷-

$\cos^۲\alpha = \frac{۱+\cos ۲\alpha}{۲} \rightarrow \cos^۲(\frac{\pi}{۱۲}) = \frac{۱+\frac{\sqrt{۳}}{۲}}{۲} = \frac{۲+\sqrt{۳}}{۴}$

$\frac{۳}{۴}\times\frac{۲+\sqrt{۳}}{۴} = \boxed{\frac{۶+۳\sqrt{۳}}{۱۶}}$

۸ـ

$۴ + ۴\sin x = 1 - \sin x$

$۵\sin x = -۳ \rightarrow \sin x = -\frac{۳}{۵} \rightarrow \cos x = \frac{-۴}{۵}$

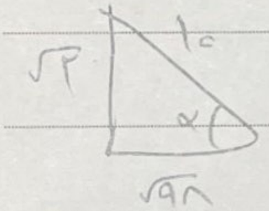
$\tan\frac{x}{۲} = \frac{\sin x}{1+\cos x} = \frac{-\frac{۳}{۵}}{1-\frac{۴}{۵}} = \boxed{-۳}$

۹ـ

$\frac{\sin\alpha}{1+\cos\alpha} - \frac{1-\cos\alpha}{\sin\alpha} = \tan\frac{\alpha}{۲}$

$\cot\frac{\theta}{۲} + \cot\frac{\theta}{۲} = ۲\cot\frac{\theta}{۲} \rightarrow \boxed{k=۲}$

۱۰ـ



$\sqrt{۲}\sin(\alpha + \frac{\pi}{۴}) = \sin\alpha + \cos\alpha$

$\sin(\alpha + \frac{\pi}{۴}) = -\frac{۳}{۵} \rightarrow \cos(\alpha + \frac{\pi}{۴}) = \frac{-۴}{۵}$

$|\sin\alpha| < |\cos\alpha| \rightarrow \frac{۳\pi}{۴} < \alpha < \pi$

$\rightarrow \cos(\frac{۱۱\pi}{۴} + \alpha) = \cos(۳\pi - (\frac{\pi}{۴} + \alpha)) \Rightarrow$

$\underbrace{-\cos(\alpha + \frac{\pi}{۴})}_{-\frac{۴}{۵}} = \boxed{+\frac{۴}{۵}}$

Arman