Year Month Date ( ) بنام خدا تکلیفی تکلیف عید

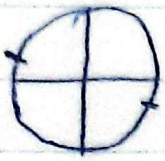
Subject

$\cot\alpha = \frac{\cos\alpha}{|\sin\alpha|} \longrightarrow \sin\alpha > 0$ ـ۱

$\Rightarrow$ ناحیه اول

$\frac{1}{|\cos\alpha|} - \frac{\sin\alpha}{\cos\alpha} = \frac{1-\sin\alpha}{|\cos\alpha|} \longrightarrow \cos\alpha > 0$

$-\frac{\pi}{6} < 2m < \frac{3\pi}{6}$ $\quad -\frac{1}{2} < \frac{m-1}{4} \leq 1 \longrightarrow -1 < m \leq 3$ ـ۲



$\frac{1}{\sin\alpha\cos\alpha} = -2$ $\quad \frac{3\pi}{4} < m < \pi$ ـ۳

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

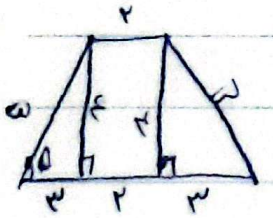
$1 \qquad -\frac{1}{2}$

$\downarrow$ (I)

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

$\frac{1}{(\sin\alpha+\cos\alpha)(1-\sin\alpha\cos\alpha)} = \frac{1}{-\frac{1}{\sqrt{2}} \times \frac{3}{2}} = -\frac{2\sqrt{2}}{3}$

ـ۴



$0/9 \times 5 = 3$

$S_{\square} = 2\times4 + 2\times\frac{4+6}{2}\times3 = 30$

ـ۵

$\tan\left(\frac{3\pi}{2}+15\right)\tan(15-\pi) - \sin(9\pi+15)\cos\left(\frac{3\pi}{2}-15\right)$

$-\cot 15 \qquad \tan 15 \qquad \sin 15 \qquad -\sin 15$

$-1+\sin^2 15 = -\cos^2 15 \quad k=-1$

PARDIS

Year Month Date ( )

Subject

$\sqrt{3} \times \frac{\sqrt{3}}{3} \times \sin\left(\frac{3\pi}{2} - 2\theta\right) - \sqrt{3} \times \frac{\sqrt{3}}{2} \cos(\pi - 2\theta)$ — 6

$\frac{3}{2}(\cos(2\theta) + \cos 2\theta = \frac{3}{2}\cos 2\theta$

$16\cos^2(2\pi n)\cos^2(4\pi n)\cos^2(12\pi n)\cos^2(24\pi n)$ — 7

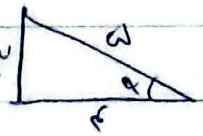
$\sin^2 4\pi n \quad \sin^2 12\pi n \quad \sin^2 24\pi n \quad \sin^2 48\pi n$

$= \frac{4\cos^2 24\pi n \sin^2 24\pi n \; 4\cos^2 4\pi n \; (4\cos^2 12\pi n)(4\cos^2 24\pi n)}{4 \times 4 \times \sin^2 24\pi n} = \frac{\sin^2\left(\pi + \frac{\pi}{12}\right)}{8\left(1 - \cos\frac{\pi}{6}\right)} = \frac{3}{32 - 16\sqrt{3}}$

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

$\tan\frac{\pi}{2} = \frac{\sin\frac{\pi}{2}}{\cos\frac{\pi}{2}} = \frac{\frac{3}{\sqrt{10}}}{\frac{-1}{\sqrt{10}}} = -3$ — 8

$1 - \sin\pi = \epsilon + \epsilon\sin\pi \quad \sin\pi = -\frac{3}{\omega} \quad \cos\pi = -\frac{\epsilon}{\omega} \quad \sin^2\frac{\pi}{2} = \frac{1 + \frac{\epsilon}{\omega}}{2} \rightarrow \sin\frac{\pi}{2} = \frac{3}{\sqrt{16}}$



$\cos^2\frac{\pi}{2} = \frac{1 - \frac{\epsilon}{\omega}}{2} \rightarrow \cos\frac{\pi}{2} = \frac{-1}{\sqrt{10}}$

$\frac{\sin\alpha(1 + \cos\alpha)}{\sin^2\alpha} + \frac{1 + \cos\alpha}{\sin\alpha} = \frac{8\cos^2\frac{\alpha}{2}}{2\sin\frac{\alpha}{2}\cos\frac{\alpha}{2}} = 2\cot\frac{\alpha}{2}$ — 9

$\sin\alpha$

$k = 2$

$\cos\left(\frac{11\pi}{6} + \alpha\right) = \cos\left(\frac{\pi}{2} + \alpha + \frac{\pi}{6}\right) = -\sin\left(\alpha + \frac{\pi}{6}\right) = \frac{3}{\omega}$ — 10

$\sqrt{2}\sin\left(\alpha + \frac{\pi}{6}\right) = \frac{\sin\alpha}{\frac{\pi}{10}} + \frac{\cos\alpha}{\frac{-\sqrt{2}}{10}} = \sin\left(\alpha + \frac{\pi}{2}\right) = \frac{-3}{\omega}$