Subject

Year Month Date ( )

۱۸,۷۵

ستایش عرف زاد تکلیف ۲۸ یازدهم ریاضی A

(۱

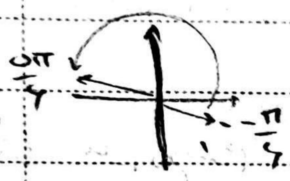
$\cot\alpha = \frac{\cos\alpha}{\sqrt{1-\cos^2\alpha}}$, $\frac{1}{|\cos\alpha|} - \frac{\sin\alpha}{\cos\alpha} = \frac{1-\sin\alpha}{|\cos\alpha|}$ ۲

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

مثبت مثبت منفی ناحیه اول مثلثاتی

(۲ $-\frac{\pi}{12} < x < \frac{5\pi}{12}$ $\sin 2x = \frac{m-1}{4}$

$-\frac{\pi}{6} < 2x < \frac{5\pi}{6} \rightarrow -\frac{1}{2} < \sin 2x \leq 1 \rightarrow -\frac{1}{2} < \frac{m-1}{4} \leq 1 \rightarrow -1 < m \leq 5$ ۲



(۳ $\frac{3\pi}{2} < 2x < 2\pi$ $3\pi < 4x < 4\pi$

$\tan x + \cot x = -3$ (هر دو منفی)

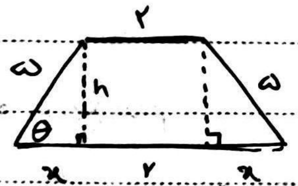
$\frac{2}{\sin 2\alpha} = -3$ $\sin 2\alpha = \frac{-2}{3}$ ۱,۷۵

$\frac{1}{\sin^3 x + \cos^3 x} = A$

$\frac{1}{(\sin x + \cos x)(\sin^2 x + \cos^2 x - \sin x\cos x)} = \frac{\sqrt{3}}{1 - \frac{\sin 2x}{2}} = \frac{\sqrt{3} \times 3}{2 + \frac{2}{3}} = \frac{3\sqrt{3}}{4}$

$\frac{1}{\sqrt{3}}$

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



(۴ $\cos\theta = 0/6$ $h = 0/8 \times 5 = 4$ $x = 0/6 \times 5 = 3$

$\theta = 53^\circ \longrightarrow S_{\text{ذوزنقه}} = \frac{1}{2} \times (4) \times (2+2+6) = 20$ ۲

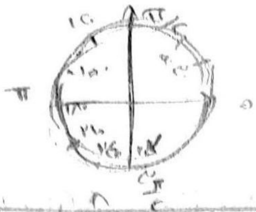
(۵ $\tan(255)\tan(-165) - \sin(195)\cos(255) = k\cos^2 15$

$\rightarrow \tan(\frac{3\pi}{2}+15)\tan(\pi+15) - \sin(\frac{9}{..}\pi+15)\cos(\frac{3\pi}{2}-15) = k\cos^2 15$

$\Rightarrow -\cot 15 \tan 15 - \sin 15(-\sin 15) = \sin^2 15 - 1 = -\cos^2 15 = k\cos^2 15$ ۲

$\longrightarrow k = -1$

NEGAR



Subject
Year Month Date ( )

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

$\sqrt{3}\cos(210^\circ)\sin(240^\circ) - \sqrt{2}\sin(135^\circ)\cos(150^\circ) = k\cos 30^\circ$ ۱۶

$\sqrt{3}\times -\frac{\sqrt{3}}{2}\cos(30^\circ) + \cos 30 = \frac{5}{2}\cos 30 \longrightarrow k = \frac{5}{2}$

۵

$f(x) = 16\cos^2(3x)\cos^2(6x)\cos^2(12x)\cos^2(24x)$ $f(\frac{\pi}{36}) = ?$ ۱۷

$\frac{\sin^2(3x)\times}{\sin^2(3x)}$ ۱

$8\sin^2 6x\times\cos^2 6x) = 4\sin^2 12x\times\cos^2 12x = 2\sin^2 24x\times\cos^2 24x =$

$f(x) = \frac{\sin^2 48x}{\sin^2(3x)} = \frac{\sin^2(\frac{4\pi}{3})}{\sin^2(\frac{\pi}{12})} = \frac{(-\frac{\sqrt{3}}{2})^2}{\frac{1-\cos\frac{\pi}{6}}{2}} = \frac{3/4}{\frac{1-\frac{\sqrt{3}}{2}}{2}} = \frac{3}{2-\sqrt{3}} = 6-3\sqrt{3}$

$\frac{1-\sin x}{1+\sin x} = 4 \to 1-\sin x = 4+4\sin x \to \sin x = -\frac{3}{5}$ ربع سوم x ۱۸

۵

$\tan\frac{x}{2} = \frac{\sin x}{1+\cos x} = \frac{-\frac{3}{5}}{1-\frac{4}{5}} = \frac{-\frac{3}{5}}{\frac{1}{5}} = -3$

$\frac{\sin\theta}{1-\cos\theta} + \frac{1+\cos\theta}{\sin\theta} = k\cot\frac{\theta}{2}$ ۱۹

$\cot\frac{\theta}{2} + \cot\frac{\theta}{2} = 2\cot\frac{\theta}{2} \longrightarrow k = 2$

۵

$\sin\alpha = \frac{\sqrt{2}}{10}$ $\cos(\frac{11\pi}{4}+\alpha) = \cos(\frac{3\pi}{4}+\alpha)$ ربع دوم α ۲۰

$= \cos\frac{3\pi}{4}\times\cos\alpha - \sin\frac{3\pi}{4}\sin\alpha$

$= -\frac{\sqrt{2}}{2}\times -\frac{7\sqrt{2}}{10} - \frac{\sqrt{2}}{2}\times\frac{\sqrt{2}}{10} = +0/6$

$\sqrt{98} = 7\sqrt{2}$

۵

۱۷) $f(\frac{\pi}{36}) = 16\cos^2(\frac{\pi}{12})\cos^2(\frac{\pi}{6})\cos^2(\frac{\pi}{3})\cos^2(\frac{2\pi}{3})$

$\cos^2\frac{\pi}{12} = \frac{1+\cos\frac{\pi}{6}}{2} = \frac{2+\sqrt{3}}{4}$

$16\left(\frac{2+\sqrt{3}}{4}\right)\times\frac{3}{4}\times\frac{1}{4}\times\frac{1}{4} = \frac{3(2+\sqrt{3})}{16}$