Subject
Year Month Date ( )

ستایش عرب‌زاد تکلیف ۲۸ یازدهم رشته A

(۱

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

$\dfrac{\cos\alpha}{\sin\alpha} = \dfrac{\cos\alpha}{\sqrt{1-\cos^2\alpha}}$ $\qquad \dfrac{\sin\alpha}{-\cos\alpha} = \dfrac{\sin\alpha}{|\cos\alpha|}$

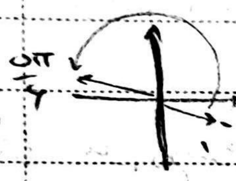
منفی، مثبت، منفی مثبت

ناحیه دوم مثلثاتی

(۲

$\dfrac{-\pi}{12} < x < \dfrac{5\pi}{12}$ $\qquad \sin 2x = \dfrac{m-1}{4}$

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



(۳

$\dfrac{3\pi}{2} < 2x < 2\pi$ $\qquad 3\pi < 4x < 4\pi$

$\tan x + \cot x = -3$

$\dfrac{2}{\sin 2\alpha} = -3 \Rightarrow \sin 2\alpha = \dfrac{-2}{3}$

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

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

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

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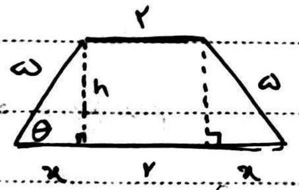

$\cos\theta = 0/6$ $\qquad h = 0/8 \times 5 = 4$ $\qquad x = 0/6 \times 5 = 3$

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

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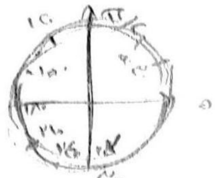
$\tan(255)\tan(-165) - \sin(195)\cos(255) = k\cos^2 15$

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

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

$\longrightarrow \boxed{k=-1}$



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

$\sqrt{3}\cos(210)\sin(240) - \sqrt{2}\sin(135^\circ)\cos(105) = k\cos 27^\circ$ (16

$\sqrt{3}\times-\frac{\sqrt{3}}{2}\cos(330^\circ)+\cos 27 = \frac{5}{4}\cos 27 \longrightarrow k=\frac{5}{4}$

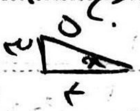
$f(x)=16\cos^2(3x)\cos^2(6x)\cos^2(12x)\cos^2(24x) \qquad f(\frac{\pi}{48})=?$ 17 ✓

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

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

$f(x)=\frac{\sin^2 48x}{\sin^2(3x)}=\frac{\sin^2(\frac{4\pi}{3})}{\sin^2(\frac{\pi}{16})}=\frac{(-\frac{\sqrt{3}}{2})^2}{\frac{1-\cos\frac{\pi}{6}}{2}}=\frac{3/4}{\frac{1-\frac{\sqrt{3}}{2}}{2}}=\frac{3}{2-\sqrt{3}}=6+3\sqrt{3}$

$\frac{1-\sin x}{1+\sin x}=4 \rightarrow 1-\sin x=4+4\sin x \rightarrow \sin x=\frac{-3}{5}$ x ← ربع سوم (18



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

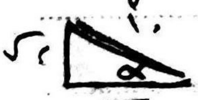
$\frac{\sin\theta}{1-\cos\theta}+\frac{1+\cos\theta}{\sin\theta}=k\cot\frac{\theta}{2}$ 19 ✓

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

$\sin\alpha=\frac{\sqrt{2}}{10} \qquad \cos(\frac{11\pi}{4}+\alpha)=\cos(\frac{3\pi}{4}+\alpha)$ α ـ ربع دوم .20

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

$=\frac{+\sqrt{2}}{2}\times\frac{+7\sqrt{2}}{10}-\frac{\sqrt{2}}{2}\times\frac{\sqrt{2}}{10}=\pm 0/8$



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