« یازدهم دختر A »

ستایش خدایارے

« کلکسیون شماره ۲۸ »

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

(۵)

بسا لے داخل $|\cos\alpha|$ بایه ⊕ باشه

$\cos\alpha > 0 \longrightarrow$ ربع اول یا چهارم $\quad * \quad \cot\alpha = \frac{\cos\alpha}{|\sin\alpha|} = \frac{\cos\alpha}{\sin\alpha} = \cot\alpha$

** ربع α ربع اول یا چهارم ! ← (۱) *** ← α ربع اول است

$$\frac{-\pi}{12} < x < \frac{5\pi}{12} \xrightarrow{\times 2} \frac{-\pi}{6} < 2x < \frac{5\pi}{6} \qquad \sin\left(\frac{-\pi}{6}\right) = -\frac{1}{2}$$

(۵)

$\sin 0 = 0 \qquad \sin\frac{\pi}{2} = 1 \;,\; \sin\frac{5\pi}{6} = \frac{1}{2}$

$$-\frac{1}{2} < \sin 2x \leq 1 \longrightarrow -\frac{1}{2} < \frac{m-1}{4} \leq 1 \longrightarrow \boxed{-1 < m \leq 5}$$

$\tan x + \cot x = -3 \qquad \frac{\sin^2 x + \cos^2 x}{\sin x \cos x} = -3 \longrightarrow SC = -\frac{1}{3}$

$\sin x = S$
$\cos x = C$

$3\pi < 4x < 6\pi \longrightarrow \frac{3\pi}{4} < x < \frac{3\pi}{2} \longrightarrow |\cos x| > \sin x$

(۱۵)

$$S^3 + C^3 = (S+C)(S^2 + C^2 - SC) = \left(\frac{-\sqrt{3}}{3}\right)\left(\frac{4}{3}\right) = \frac{-4\sqrt{3}}{9}$$

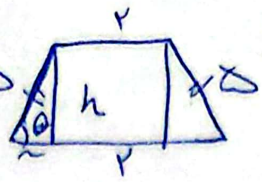
$S + C = A \longrightarrow S^2 + C^2 + 2SC = A^2 \longrightarrow A^2 = 1 - \frac{2}{3} = \frac{1}{3}$

$A < 0$ قابل قبول

$A = -\frac{\sqrt{3}}{3}$ ✓ $\qquad A = +\frac{\sqrt{3}}{3}$ غ ق

$$\frac{1}{S^3 + C^3} = \frac{-9}{4\sqrt{3}}$$

$C = \frac{P}{10} = \frac{2\pi}{6} = \frac{\pi}{3}$



$h^2 + 2^2 = 4^2 \Rightarrow h = 2\sqrt{3}$

$S = \frac{10 \times 4}{2} = 20$

$\tan 28\delta = \tan(270 + 10\delta) = -\cot 10\delta$

$\tan(-40) = -\tan(180 - 10\delta) = \tan 10\delta$

$-\sin(190) = -\sin(90 + 10\delta) = -\sin 10\delta$

$\cos 250 = \cos(270 - 10\delta) = -\sin 10\delta$

(6) $\rightarrow -\cot 10\delta \times \tan 10\delta + \sin^2 10\delta = -1 + \sin^2 10\delta$

$\sin^2 10\delta = 1 - \cos^2 10\delta \quad -1 + 1 - \cos^2 10\delta = -\cos^2 10\delta$

$k \cos^2 10\delta = -\cos^2 10\delta \Rightarrow (k = -1)$

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(4)

$C 210 = C(180 + 30) = -\cos 30 = -\frac{\sqrt{3}}{2}$

$S 243 = S(270 - 27) = -\cos 27$

$S 135 = S(180 - 45) = S 45 = \frac{\sqrt{2}}{2}$

$C 153 = C(180 - 27) = -C 27$

$S = \sqrt{3} \times -\frac{\sqrt{3}}{2} \times (-C27) - \sqrt{2} \times \frac{\sqrt{2}}{2} \times -C27 = \frac{3}{2} C27 + C$

$= \frac{5}{2} \cos 27 \quad \left(S = \frac{5}{2} \right)$

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(7)

$C^2 3x \rightarrow \cos^2 \frac{\pi}{12} \quad x = \frac{\pi}{36}$

$\cos 2\alpha = 2\cos^2 \alpha - 1 \rightarrow 2\cos \frac{2\pi}{12} = \frac{\sqrt{3}}{2} + 2 \Rightarrow \cos^2 \frac{\pi}{12} = \frac{\sqrt{3} + 4}{2}$

$\cos^2 6x \rightarrow \cos^2 \frac{\pi}{6} = \left(\frac{\sqrt{3}}{2}\right)^2 = \frac{3}{4}$

$\cos^2 12x \Rightarrow \cos^2 \frac{\pi}{3} = \left(\frac{1}{2}\right)^2 = \frac{1}{4}$

$\cos^2 24x \Rightarrow \cos^2 \frac{24\pi}{3} = \left(\frac{-1}{2}\right)^2 = \frac{1}{4}$

$x = \frac{\pi}{3}$

$$f\left(\frac{\pi}{36}\right) = 14\cos^2\left(\frac{3\alpha\pi}{24}\right)\alpha\cos^2\left(\frac{2\alpha\pi}{12}\right)\cos^2\left(\frac{12\pi}{24}\right)\cos^2\left(\frac{24\pi}{24}\right)$$

$$14\cos^2\left(\frac{\pi}{12}\right)\cos^2\left(\frac{\pi}{4}\right)\cos^2\left(\frac{\pi}{3}\right)\cos^2\left(\frac{2\pi}{3}\right)$$

$$\frac{1}{4}\times\frac{1}{2}\alpha\frac{3}{4}\alpha\frac{\sqrt{3}+1}{2}\alpha\frac{3}{4}=\frac{3(\sqrt{3}+1)}{14}$$

1/0

$$\frac{1-S}{1+S}=4 \longrightarrow \sin\alpha=-\frac{3}{5}$$

$$\frac{2\tan\frac{\alpha}{2}}{1+\tan^2\frac{\alpha}{2}}=\frac{-3}{5}$$

$$\tan\frac{\alpha}{2}=a \qquad \frac{2a}{1+a^2}=\frac{-3}{5} \longrightarrow 10a=-3a^2-3$$

$$3a^2+10a+3=0 \longrightarrow a^2+\frac{10}{3}a+1=0 \qquad (a+1)(a+9)=0$$

-3 خارج میشود $\leftarrow a=-\frac{1}{3}, -3$ $\left(=a=\frac{-1}{3},\frac{-9}{3}\right.$

$$\frac{S}{1-C}+\frac{1+C}{S}=\frac{S}{1-C}+\frac{S}{1-C}=\frac{2S}{1-C} \qquad \frac{1+C}{S}=\frac{S}{1-C}$$

$$2\alpha\frac{2\tan\frac{\theta}{2}}{1+\tan^2\frac{\theta}{2}}=\frac{4\tan\frac{\theta}{2}}{1+\tan^2\frac{\theta}{2}-1+\tan^2\frac{\theta}{2}}=\frac{4\tan\frac{\theta}{2}}{2\tan^2\frac{\theta}{2}}=\frac{2}{\tan\frac{\theta}{2}}$$

$$1=\frac{1-\tan^2\frac{\theta}{2}}{1+\tan^2\frac{\theta}{2}}$$

$$2\cot\frac{\theta}{2}=K\cot\frac{\theta}{2} \Longrightarrow (K=2)$$

$$S=\frac{\sqrt{2}}{10} \qquad C=-\frac{\sqrt{98}}{10}$$

$$\cos\left(\frac{11\pi}{4}+\alpha\right)=\cos\left(3\pi-\frac{\pi}{4}+\alpha\right)=\cos\left(2\pi-\left(\frac{\pi}{4}-\alpha\right)\right)$$

$$-\cos\left(\frac{\pi}{4}-\alpha\right)=-\left(\cos\frac{\pi}{4}\cos\alpha+\sin\frac{\pi}{4}\sin\alpha\right)$$

$$-\left(\frac{\sqrt{2}}{2}\alpha\frac{-\sqrt{98}}{10}+\frac{\sqrt{2}}{2}\alpha\frac{\sqrt{2}}{10}\right)=-\left(\frac{-\sqrt{2\alpha 98}}{20}+\frac{2}{20}\right)$$

$$\frac{3}{5} \qquad \frac{3}{5}=-\left(\frac{-12}{20}\right)=-\left(\frac{-14+2}{20}\right)$$