Year: A یازدهم دختر Month: Day: ( ) غزل عباسی نفر Subject: ۲۸ تکلیف شماره

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

$\Rightarrow \cos\alpha > 0$ $\quad \cot\alpha = \dfrac{\cos\alpha}{\sqrt{1-\cos^2\alpha}} = \dfrac{\cos\alpha}{|\sin\alpha|} = \dfrac{\cos\alpha}{\sin\alpha}$

$\Rightarrow \sin\alpha > 0$ ربع اول

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$$-\frac{\pi}{12} < x < \frac{5\pi}{12} \xrightarrow{\times 2} -\frac{\pi}{6} < 2x < \frac{5\pi}{6}$$

$\sin -\dfrac{\pi}{6} < \sin 2x < \sin\dfrac{5\pi}{6} \Rightarrow -\dfrac{1}{2} < \sin 2x \leq 1$

$\rightarrow \sin\dfrac{\pi}{2} = 1 \quad \sin\dfrac{5\pi}{6} = \dfrac{1}{2} \qquad -\dfrac{1}{2} < \dfrac{m-1}{4} \leq 1 \Rightarrow$

$-1 < m \leq 5$

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$\dfrac{\sin^2 x + \cos^2 x}{\sin x \cdot \cos x} = -3 \Rightarrow \sin x \cdot \cos x = \dfrac{-1}{3}$

$\dfrac{3\pi}{4} < x < \pi \Rightarrow \sin x > 0 \quad \cos x < 0$

و $|\cos x| > \sin x \Rightarrow \sin x + \cos x < 0$

$\sin^3 x + \cos^3 x = (\sin x + \cos x)(\sin^2 x + \cos^2 x - \sin x \cos x) = -\dfrac{\sqrt{3}}{3} \times \dfrac{4}{3}$ (معکوس) $\Rightarrow \dfrac{-9}{4\sqrt{3}} = \dfrac{-9\sqrt{3}}{12} = \boxed{\dfrac{-3\sqrt{3}}{4}}$

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

$\sin x + \cos x = -\dfrac{\sqrt{3}}{3}$

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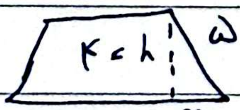
θ زاویه حاده



$\cos A = \dfrac{6}{10} = \dfrac{x}{5} \qquad x = 3$

قاعده $= 2 + 2x = 8 \qquad S = \dfrac{(2+8)}{2} \times 4 = \boxed{20}$

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$\tan(285) = \tan(270+15) = -\cot 15$ / $\tan(-165)$
$= -\tan(180-15) = \tan 15$ / $-\sin(1095) =$
$-\sin(6 \times 180 + 15) = -\sin 15$ / $\cos(255) = \cos$
$(270+15) = -\sin 15$ حاصل عبارت : $-\cot 15 \times$
$\tan 15 + (-\sin 15)(-\sin 15) = \sin^2 15 - 1$

$\cos(27^\circ) = x$

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$\cos(210) = \cos(180+30) = -\cos(30) = -\frac{\sqrt{3}}{2}$
$\sin(243) = \sin(270-27) = -\cos(27) = x$
$\sin(135) = \sin(180-45) = +\sin 45 = \frac{\sqrt{2}}{2}$
$\cos(153) = \cos(180-27) = -\cos 27 = -x$

حاصل = $\frac{5}{2}$

حاصل عبارت: $\sqrt{3} \times \frac{-\sqrt{3}}{2} \times (-x) - \sqrt{2} \times \frac{\sqrt{2}}{2} \times (-x) =$
$\frac{3}{2} x + x = \frac{3}{2} \times \cos(27) + \frac{2\cos(27)}{2} = \frac{5}{2} \cos 27$

$x = \frac{\pi}{36}$ $\cos \Rightarrow$ (شکل سوم دهم)

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$16 \times C^2(\frac{\pi}{12}) \times C^2(\frac{\pi}{6}) \times C^2(\frac{\pi}{3}) \times C^2(\frac{2\pi}{3})$
$C(\frac{\pi}{12}) \Rightarrow \cos 2\alpha = \frac{1-\tan^2\alpha}{1+\tan^2\alpha} \Rightarrow \alpha = \frac{\pi}{12}$
$\Rightarrow \cos 2\alpha = \frac{1+\cos 4\alpha}{2} \longrightarrow \cos 2\alpha = 2\cos^2\alpha - 1$
$\Rightarrow \cos\frac{\pi}{6} = 2 \times \cos^2\frac{\pi}{12} - 1 \longrightarrow \frac{\sqrt{3}}{2} = 2\cos^2\alpha - 1$
$(\frac{\sqrt{3}}{2} + \frac{2}{2}) \times \frac{1}{2} \Rightarrow \cos^2\alpha = 2 + \sqrt{3}$

حاصل عبارت: $16 \times \frac{2+\sqrt{3}}{1} \times \frac{3}{4} \times \frac{1}{4} \times \frac{1}{4} =$

$\boxed{\frac{6+3\sqrt{3}}{4}}$

(۸) $\frac{1-\sin x}{1+\sin x} = 2 \Rightarrow \sin x = \frac{-2}{5}$; $\cos x < 0$

$\sin x = \frac{2\tan\frac{x}{2}}{1+\tan^2\frac{x}{2}} = \frac{-2}{5}$; $\tan\frac{x}{2} = m$; $\frac{2m}{1+m^2} = \frac{-2}{5}$

$2m^2 + 10m + 2 = 0$; $(m+\frac{1}{2})(m+2) = 0$; $m = -2$ قبول ; $m = -\frac{1}{2}$ قبول

(۹) $\frac{\sin\theta}{1-\cos\theta} + \frac{1+\cos\theta}{\sin\theta} = k\cot\frac{\theta}{2} \Rightarrow$

$\frac{1+\cos\theta}{\sin\theta} = \frac{\sin\theta}{1-\cos\theta}$; $\frac{\sin\theta}{1-\cos\theta} + \frac{\sin\theta}{1-\cos\theta} = \frac{2\sin\theta}{1-\cos\theta}$

$\frac{\sin\theta}{1+\cos\theta} = \tan\frac{\theta}{2} \Rightarrow \frac{1+\cos\theta}{\sin\theta} = \cot\frac{\theta}{2}$

$2\cot\frac{\theta}{2} = k\cot\frac{\theta}{2} \Rightarrow k = 2$

(۱۰) $\sin\alpha > 0$; $\cos\alpha < 0$; $\sin\alpha = \frac{\sqrt{2}}{10}$; $\cos\alpha = -\frac{\sqrt{98}}{10}$

$\sin^2\alpha + \cos^2\alpha = 1 \Rightarrow \frac{2}{100} + m^2 = 1 \Rightarrow m \Rightarrow$

$\cos(\frac{11\pi}{4} + \alpha) = \cos(2\pi - \frac{\pi}{4} + \alpha) = \cos(2\pi - (\frac{\pi}{4} - \alpha)) = -\cos(\frac{\pi}{4} - \alpha) = -(\cos\frac{\pi}{4}\cos\alpha + \sin\frac{\pi}{4}\sin\alpha) = \frac{2-\sqrt{98}}{20} = \boxed{\frac{-2}{5}}$