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نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۱۴ کلاس .....

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$A(\cos\alpha, \sin\alpha)$, $B(1, \sin\alpha)$ $\Rightarrow AB = |1-\cos\alpha| = 1-\sqrt{1-\sin^2\alpha}$ (۰)

$OB^2 = OT^2 + BT^2 \rightarrow OB^2 = 1+\cot^2\alpha = \frac{1}{\sin^2\alpha}$ $\xrightarrow[OB>0]{\alpha \text{ در ناحیه } 1}$ $OB = \frac{1}{\sin\alpha}$

$AB = \frac{1}{\sin\alpha} - 1$

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$\frac{AD}{\sin B} = \frac{6}{\frac{\sqrt{2}}{2}} \rightarrow AD = 6\sqrt{2}\sin B$

$\frac{AD}{\sin C} = \frac{3}{\frac{1}{2}} \rightarrow AD = 6\sin C$

$\sin C = \sqrt{2}\sin B$

$\frac{AC}{\sin B} = \frac{AB}{\sin C} \rightarrow \frac{AB}{AC} = \frac{\sqrt{2}\sin B}{\sin B} = \sqrt{2}$ (۲)

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الف) $S_{AOB} = \frac{1}{2}$, $S_{BOC} = \frac{\sqrt{3}}{4}$, $S_{COA} = \frac{1}{4}$

$S_{\mu'} = \frac{2+\sqrt{3}}{4}$ (۱)

ب) $AB + AC + BC = \sqrt{2-\sqrt{3}} + \sqrt{2+\sqrt{3}} + \frac{\sqrt{12}}{2}$

$= \sqrt{4+2\sqrt{3}} + \sqrt{3} = \sqrt{3}+1+\sqrt{3} = 2\sqrt{3}+1$

$P = \sqrt{2+\sqrt{3}} + \sqrt{2-\sqrt{3}} + \sqrt{3}$

$A(\frac{1}{2}, \frac{\sqrt{3}}{2})$, $B(\frac{\sqrt{3}}{2}, \frac{1}{2})$, $C(0,-1)$

$AB = \sqrt{2}$, $AC = \sqrt{2+\sqrt{3}}$, $BC = \sqrt{3}$

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$\frac{3\log_2^3}{\frac{1}{2}} = \frac{4\log_3^2}{\sin B} \rightarrow \sin B = \frac{2\log_3^2}{3\log_2^3}$ (۲)

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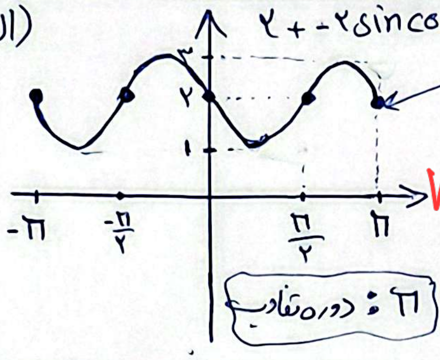
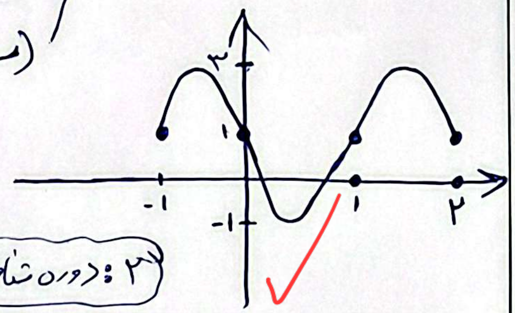
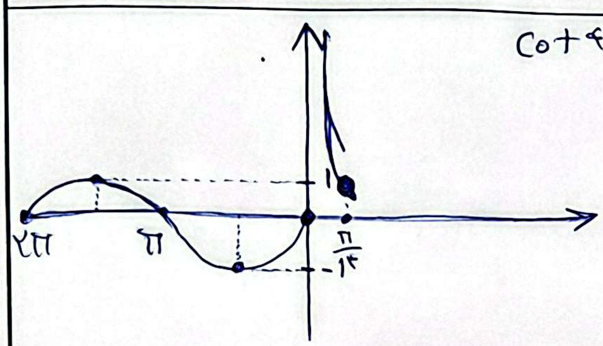
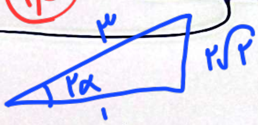
$\sin^2\alpha \times -\cos 2\alpha = \sin^2\alpha - 2\sin^4\alpha \rightarrow 2\cos^4\alpha - 2\sin^4\alpha - 1 = 1$

$\cos^4\alpha - \sin^4\alpha = 1 \rightarrow \cos 2\alpha = 1 \rightarrow \cos^2\alpha - 1 = \sin^2\alpha$

$\rightarrow \sin 2\alpha = \sin 2\pi = 0$ (۲)

$-\sin^2\alpha = \sin^2\alpha$

$\alpha = \pi, 2\pi$

الف) $2+-2\sin\cos x = -\sin 2x + 2$  ✓ (۲) ب) $-2\sin(\pi x)+1$  ✓	۶
 $\cot 45^\circ = 1$ $R=[-1,+\infty)$ ✓ (۲)	۷
$\sin(cx)\cos(cx) = \frac{\sin(2cx)}{2} \to \frac{\sin(2cx)}{2}\times\frac{2\cos(2cx)}{2} = \frac{\sin 4cx}{2}$ (۱٫۵) $f(x)=a+\frac{b\sin 4cx}{2}$ → $a=2$, ~~$b=4$~~ → $b=8$, $c=\frac{2\pi}{4c}=\frac{2\pi}{5} \to 4c=5 \to c=\frac{5}{4}$ $f(x)=2+4\sin 5x$ $\frac{bc}{a}=\frac{5}{2}$ $\frac{bc}{a}=5$	۸
$a=3$ $b= \to \frac{2\pi}{b}=\pi \to b=2$ $c=-1$ $f(x)=3\cos 2x-1=0 \to \cos 2x=$ ~~$\frac{1}{3}$~~ $-\frac{1}{3}$ (۱٫۵)  $\frac{1-\tan^2\alpha}{1+\tan^2\alpha}=\frac{1}{3} \to 1-\tan^2\alpha=\frac{1+\tan^2\alpha}{3} \to \tan^2\alpha=\frac{1}{2} \to \tan\alpha=\frac{\sqrt{2}}{2}$ $\lvert\tan 2\alpha\rvert = 2\sqrt{2}$	۹
صفحه بعد:	۱۰

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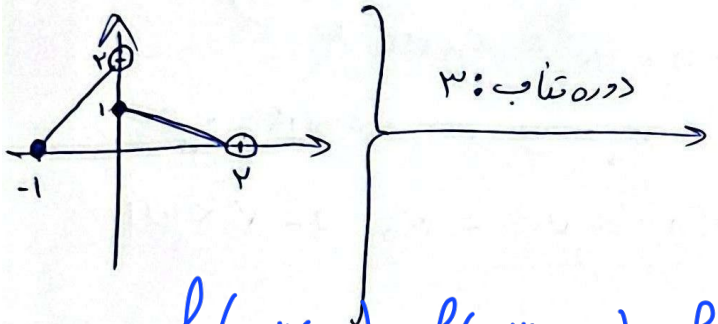
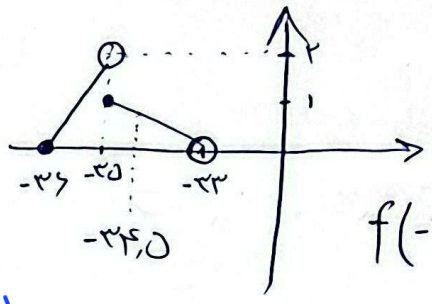


دوره تناوب: ۳



$f(-34,5) = f\left(\frac{1}{2}\right) = \frac{3}{4}$

$f(-34,5) = f(-34+1,5) = f(1,5)$

$$f(x) = \begin{cases} -\frac{1}{2}x + 1 & 0 \le x < 2 \\ 2x + 2 & -1 \le x < 0 \end{cases} \rightarrow f(1,5) = \frac{1}{4}$$