

نام و نام خانوادگی: اسامی خانوادگی پاسخنامه تشریحی تکلیف شماره: ۱۴ کلاس: دبیر:
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$$\frac{3}{\sin \alpha} = \tan \alpha = \cos \alpha \rightarrow y = \cot \alpha = 1 \Rightarrow A \left| \frac{\cos \alpha}{\sin \alpha} \right| \rightarrow A \left| \frac{\sin \alpha}{\cos \alpha} \right| \rightarrow B \left| \frac{1}{\cos \alpha} \right|$$

$$AB = \sqrt{(\sin \alpha - 1)^2 + (\cot \alpha - \cos \alpha)^2} = \sqrt{\sin^2 \alpha + 1 - 2 \sin \alpha \cos \alpha + (\cos \alpha - \cos \alpha \sin \alpha)^2} =$$

$$\sqrt{\sin^2 \alpha + \sin^2 \alpha - 2 \sin \alpha \cos \alpha + \cos^2 \alpha - \cos^2 \alpha \sin \alpha - 2 \cos^2 \alpha \sin \alpha} = \sqrt{1 - 2 \sin \alpha (\sin \alpha + \cos^2 \alpha) - \cos^2 \alpha \sin \alpha}$$

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

۱/۵

$$\frac{\sin \alpha}{4} = \frac{\sin \alpha}{AB} \left\{ \begin{array}{l} \rightarrow \frac{AC}{AB} = \frac{\frac{r}{r}}{r \times \frac{1}{r}} \rightarrow \frac{AB}{AC} = \frac{r}{r} = 1 \end{array} \right. \quad D_1 = \alpha \rightarrow D_2 = 180^\circ - \alpha$$

$$\frac{\sin \alpha}{r} = \frac{\sin \alpha}{AC} \quad \sin D_1 = \sin D_2$$

۲

$$A = \frac{\pi}{r} \Rightarrow AB = \sqrt{\left(\frac{r}{r} - \frac{1}{r}\right)^2 + \left(\frac{r}{r} - \frac{1}{r}\right)^2} = \frac{r^2 - 1}{r} \times r$$

$$C = \frac{3\pi}{r} \Rightarrow AC = \sqrt{\left(\frac{1}{r}\right)^2 + \left(\frac{r}{r} + 1\right)^2}$$

۱/۵

$$S_{\Delta} = \frac{1}{r} \times AB \times AC \times \sin \alpha = \frac{1}{r} \times \frac{r^2 - 1}{r} \times \frac{r}{r} \times \frac{1}{r} = \frac{1}{r} \times \frac{r^2 - 1}{r} \times 1 = \frac{r^2 - 1}{r^2}$$

۲

$$\text{طبق نکته داریم} \rightarrow \underbrace{r \cos \alpha - \cos^2 \alpha}_{\cos \alpha + \cos \alpha} - \underbrace{(\sin^2 \alpha \times (r \sin \alpha - 1))}_{-\cos^2 \alpha + \sin^2 \alpha} = 1$$

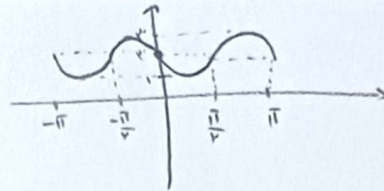
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$$r \cos^2 \alpha - \cos^2 \alpha + \sin^2 \alpha (\cos^2 \alpha - \sin^2 \alpha) = (\sin^2 \alpha + \cos^2 \alpha) (\cos^2 \alpha - \sin^2 \alpha) - \cos^2 \alpha (1 - \sin^2 \alpha) + \cos^2 \alpha$$

$$= \cos^2 \alpha - \sin^2 \alpha = \cos^2 \alpha = 1 \rightarrow \sin^2 \alpha = 0$$

۵

الف) $y = -2 \sin n (\cos n + 2) = -\sin 2n + 2$
 $\{-\pi, \pi\}$ در $\frac{2\pi}{\gamma} = \pi$ ✓

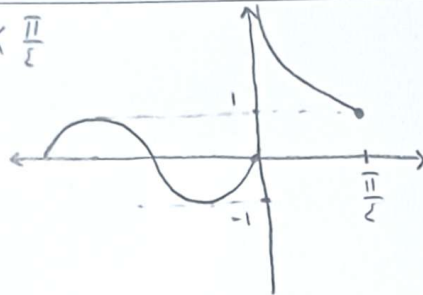


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ب) $y = 2 \cos(n + \frac{\pi}{4}) + 1 = -2 \sin n + 1$
 $\{-\pi, \pi\}$ در $\frac{2\pi}{\pi} = 2$ $R_f = [-1, 3]$

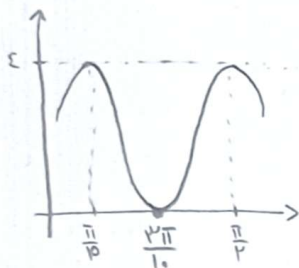
$f(x) = \begin{cases} \cot x : 0 < x \leq \frac{\pi}{2} \\ \sin x : x \leq 0 \end{cases}$



$R_f = [-1, +\infty)$

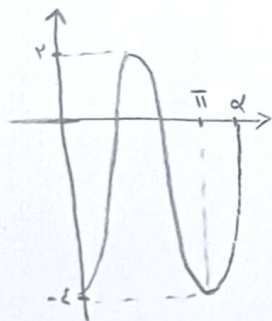
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$\sin 0 = 0$
 $\cot \frac{\pi}{2} = 1$



$f(x) = a + b \sin(\epsilon x) \cos(\epsilon x) \cos(\gamma \epsilon x) = a + \frac{b}{\gamma} \sin(\gamma \epsilon x) \cos(\gamma \epsilon x)$
 $= a + \frac{b}{\epsilon} \sin(\epsilon \epsilon x)$

در $\frac{2\pi}{\epsilon \epsilon} = \frac{\pi}{\gamma} - \frac{\pi}{1} = \frac{\epsilon \pi}{1} = \frac{\gamma \pi}{\epsilon \epsilon}$ $\epsilon \epsilon = 0$ $\gamma \epsilon = \frac{0}{\epsilon}$
 $\text{Max-Min} = \epsilon \rightarrow \frac{b}{\epsilon} = 2 \rightarrow |b| = 2$ $|a| = 2$
 $\frac{b \times \epsilon}{a} = 1 \times \frac{0}{\epsilon} \times \frac{1}{\gamma} = 0$



$f(x) = a \cos bx + c = 3 \cos(2x) - 1$

در $\frac{2\pi}{b} = \pi \rightarrow |b| = 2$

$\text{Max-Min} = 4 \rightarrow 2 \times a \rightarrow |a| = 3$

در $\frac{2\pi}{b} = \pi \rightarrow |b| = 2$

$3 \cos(\pi + 2\alpha) = 1$

$3 \cos(2\alpha) = 1$

$\cos(2\alpha) = \frac{1}{3}$

$\frac{1}{\cos^2} = 1 + \tan^2 \rightarrow \tan^2 = 8$

$|\tan 2\alpha| = \sqrt{8} = 2\sqrt{2}$

$y = f(x) \quad T = 2\pi$

$f(-3\epsilon, 0) = ?$

$[-1, 2), [2, 0), [0, 1), \dots$

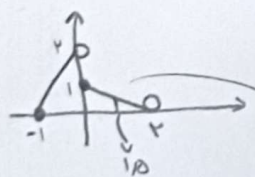
$-1 \rightarrow 2 \rightarrow 0 \rightarrow 2\pi - \epsilon$ (در $\frac{2\pi}{\gamma} = \pi$)

$-1, -\epsilon, -\gamma \rightarrow -2\pi + 2$ (در $\frac{2\pi}{\gamma} = \pi$)

$n = 12 \rightarrow (-3 \times 12) + 2 = -34$
 $n = 14 \rightarrow (-3 \times 14) + 2 = -40$

$[-34, -40]$

$-34, 10 \rightarrow \frac{1}{10}$



$y = -\frac{n}{4} + 1$
 $-\frac{3}{4} \times \frac{1}{4} + 1 = \frac{1}{4}$

$\frac{1}{4}$

