

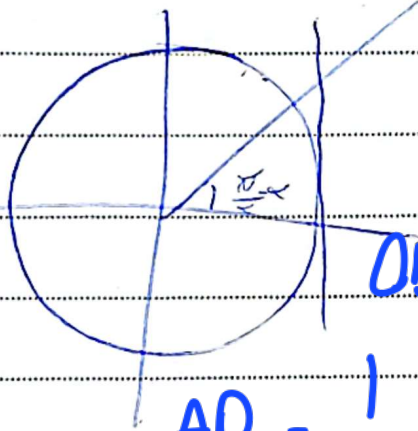
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مهر انارسلی

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$$\sin\left(\frac{\pi}{2} - \alpha\right) \Rightarrow \cos\left(\frac{\pi}{2} - \alpha\right) = 1$$

$$OB' = OT' + BT' \rightarrow OB' = 1 + \cot \alpha$$

$$OB = \frac{1}{\sin \alpha} = 1 + \cot \alpha$$

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

$$\frac{AB}{AC} = ?$$

$$\frac{12}{\sqrt{5}} = \frac{4}{1} = \frac{AB}{\sin(10^\circ)} \Rightarrow AB = \frac{4 \sin \varphi}{\sqrt{5}}$$

$$4 = \frac{r}{\frac{1}{r}} = \frac{AC}{\sin \alpha} \Rightarrow AC = 4 \sin \alpha$$

$$\rightarrow \frac{AB}{AC} = \frac{\frac{4 \sin \varphi}{\sqrt{5}}}{\frac{4 \sin \alpha}{\sqrt{5}}} = \frac{12}{5\sqrt{5}} = \frac{r}{r} = \sqrt{5}$$

$$A\left(\frac{1}{\varepsilon}, \frac{\sqrt{\mu}}{\varepsilon}\right), B\left(-\frac{\sqrt{\mu}}{\varepsilon}, \frac{1}{\varepsilon}\right), (1, -1)$$

(2)

$$\alpha + \beta = \alpha$$

$$S_1 = \frac{1}{\varepsilon} \sin \alpha \times OA \times OB = \frac{1}{\varepsilon} \times 1 \times 1 = \frac{1}{\varepsilon}$$

(3)

$$S_2 = \frac{1}{\varepsilon} \sin 120^\circ \times OA \times OB = \frac{1}{\varepsilon} \times \frac{\sqrt{3}}{2} = \frac{\sqrt{3}}{2\varepsilon}$$

$$S_3 = \frac{1}{\varepsilon} \sin 90^\circ \times OA \times OB = \frac{1}{\varepsilon} \times 1 = \frac{1}{\varepsilon}$$

(4)

$$S_{\text{total}} = \frac{1}{\varepsilon} + \frac{1}{\varepsilon} + \frac{\sqrt{3}}{2\varepsilon} = \frac{2 + \sqrt{3}}{2\varepsilon} \quad \checkmark$$

(5)

$$AB = \sqrt{\left(\frac{1+\sqrt{\mu}}{\varepsilon}\right)^2 + \left(\frac{\sqrt{\mu}-1}{\varepsilon}\right)^2} = \sqrt{\frac{1}{\varepsilon^2} + \frac{4\mu}{\varepsilon^2}} =$$

(6)

$$\sqrt{\frac{1+4\mu}{\varepsilon^2}} = \sqrt{1+4\mu}$$

$$BC = \sqrt{\frac{\mu}{\varepsilon^2} + \left(\frac{1}{\varepsilon} + 1\right)^2}$$

$$\sqrt{\frac{\mu}{\varepsilon^2} + \frac{4}{\varepsilon^2}} = \sqrt{1+\mu}$$

$$\text{Area} = \sqrt{1+4\mu} + \sqrt{1+\mu} \quad \checkmark$$

$$S_{ABC} = \frac{1}{\mu} \times AB \times AC \times \sin \mu$$

(7)

$$\frac{1}{\mu} \times \log_{\mu} \mu \times \log_{\mu} \mu \times \frac{1}{\mu} = \frac{1}{\mu} \times \log_{\mu} \mu + \log_{\mu} \mu =$$

(8)

$$\frac{1}{\mu} \times \mu \times \mu \times \log_{\mu} \mu \times \log_{\mu} \mu = \mu$$

$$r \cos^2 \alpha - \sin^2 \alpha (r \sin^2 \alpha) \rightarrow -r \sin^2 \alpha + \sin^2 \alpha \quad \text{با } \cos^2 \alpha \text{ و } \sin^2 \alpha \text{ ضرب و جمع}$$

$$\rightarrow r(\cos^2 \alpha) - \cos^2 \alpha - \sin^2 \alpha (r \sin^2 \alpha)$$

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

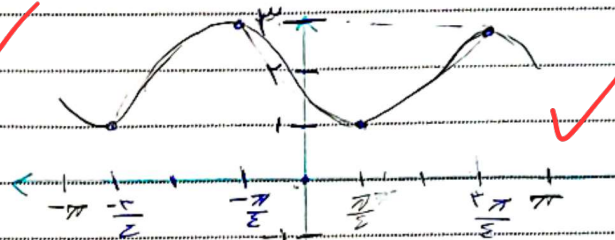
$$r(\underbrace{\cos^2 \alpha - \sin^2 \alpha}_{\cos 2\alpha}) - \cos^2 \alpha$$

$$\rightarrow r \cos 2\alpha - \cos 2\alpha = 1$$

$$\cos 2\alpha = 1 \quad \text{چون } \sin 2\alpha = 0$$

$$\text{و) } y = -r \sin \alpha \cos \alpha + r \rightarrow -\sin^2 \alpha + r \quad [-\pi, \pi]$$

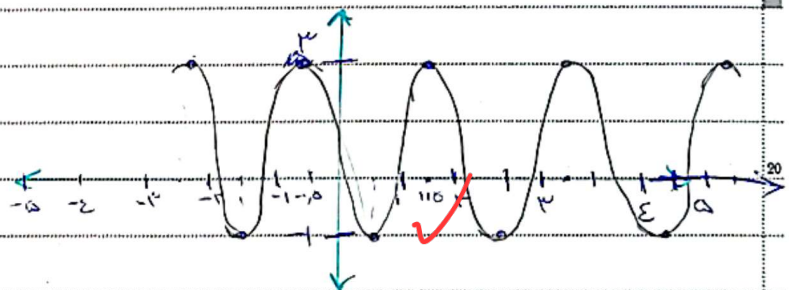
$$\text{دوره ها: } \frac{2\pi}{12} = \pi \quad \checkmark$$



$$\text{ب) } r \cos(\pi + \frac{1}{\pi})\pi + 1 \quad [-\pi, \pi]$$

$$r \cos(\pi + \frac{\pi}{\pi}) + 1$$

$$\text{دوره ها: } \frac{2\pi}{12} \rightarrow \pi \quad \checkmark$$

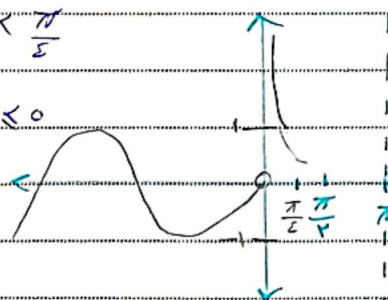


$$\min = 1 - r$$

$$\max = r + 1$$

$$f(x) = \begin{cases} \cos x & ; 0 < x < \frac{\pi}{2} \\ \sin x & ; x \leq 0 \end{cases}$$

$$R = [-1, +\infty) \quad \checkmark$$



$$f(x) = a + b \sin(cx) \cdot \cos(cx) \cdot \cos(cx)$$

دوره ها

$$\rightarrow a + b \sin(\epsilon x) \quad T = \frac{2\pi}{\epsilon} = \frac{2\pi}{1} = 2\pi \rightarrow \boxed{\epsilon = \frac{2\pi}{T}}$$

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$$\min \Rightarrow a - \left| \frac{b}{\varepsilon} \right| = 0 \Rightarrow a = \left| \frac{b}{\varepsilon} \right|$$

$$ab > 0$$

$$\max \Rightarrow a + \left| \frac{b}{\varepsilon} \right| = \varepsilon \Rightarrow a \leq \varepsilon$$

$$\boxed{\frac{ba}{a} \leq a}$$

$$\boxed{b=1}$$

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$$T = \frac{r\alpha}{b}, \quad \alpha \rightarrow b = r$$

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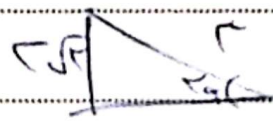
$$\max = |a| + C, r, \min = -|a| + C = -\varepsilon$$

$$C = -1$$

$$f(m) = -\cos m - 1 \Rightarrow f(m) = -\cos m - 1, \quad a = -r$$

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$$\cos \alpha = \frac{1}{r}$$



Y

$$|\tan \alpha| = \sqrt{r^2 - 1}$$

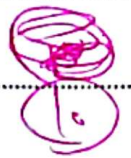
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$$f(n) = f(n + nT)$$

$$f(-r\varepsilon, \omega) = f(n - r\varepsilon)$$

$$\boxed{T = r}$$



$$T = r$$

~~$$f(\dots)$$~~



$$\Rightarrow n - r\varepsilon = -r\varepsilon, \omega \Rightarrow f(1, \omega)$$

$$f(1, \omega) = -\frac{1}{r} n a_1$$

$$f(1, \omega) = -\frac{1}{r} \left(\frac{r}{r} \right) a_1 = -\frac{1}{r} a_1 = \boxed{5d}$$

