

(هم) (متر)

ارمیتا البران نور

$$y'' = 2u' - 1 \Rightarrow \begin{cases} y_1'' = 2u_1' - 1 \\ y_2'' = 2u_2' - 1 \end{cases} \xrightarrow{u_1 = u_2} y_1'' = y_2'' \quad \text{الف)}$$

$$\text{تابع هست} \Rightarrow \boxed{y_1 = y_2}$$

$$y'' + y = 2u' - 1 \Rightarrow \begin{cases} y_1'' + y_1 = 2u_1' - 1 \\ y_2'' + y_2 = 2u_2' - 1 \end{cases} \xrightarrow{u_1 = u_2} \quad \text{ب)}$$

به طور کلی $y'' + y$
بهرضرب تابع ✓

$$y_1'' + y_1 = y_2'' + y_2$$

$$y_1'' - y_2'' + y_1 - y_2 = 0$$

$$(y_1 - y_2)(y_1' + y_1 y_2' + y_2') + (y_1 - y_2) = 0$$

$$\begin{aligned} & \sqrt{y_1 = y_2} \quad \text{با دقت} \\ & \text{الف)} \quad \frac{a u^2 + b u + c}{y_1^2 + y_1 y_2 + y_2^2 + 1} \\ & \quad \quad \quad \frac{a u^2 + b u + c}{a u^2 + b u + c} \quad \text{عقود} \end{aligned}$$

$$\text{ب)} \quad -y_2 \pm \sqrt{y_2^2 - (4 \times (y_2^2 + 1))}$$

$$= \frac{-y_2 \pm \sqrt{-4y_2^2 - 4}}{2} \quad \text{دلتا منفی پس تابع هست. (ناممکن)}$$

آذره

$$\text{الف) } y = a^r - 1 \Rightarrow \begin{cases} y_1 = a_1^r - 1 & a_1 = a_r \\ y_r = a_r^r - 1 \end{cases} \rightarrow \boxed{y_1 = y_r} \quad -r$$

تابع زوج ←

$$\text{ب) } |y| + ay = a^r + 1 \xrightarrow{a=0} |y| = 0 + 1 \begin{cases} y=1 \\ y=-1 \end{cases}$$

تابع زوج ←

$$\text{ج) } y^k + a^k = r a - 1 \Rightarrow \begin{cases} y_1^k = r a_1 - a_1^k - 1 \\ y_r^k = r a_r - a_r^k - 1 \end{cases}$$

$$a_1 = a_r \rightarrow y_1^k = y_r^k \rightarrow \boxed{y_1 = y_r} \quad \text{تابع زوج} \leftarrow$$

$$\text{د) } \sqrt[k]{y} + \sqrt[k]{a} = r \Rightarrow \begin{cases} \sqrt[k]{y_1} = r - \sqrt[k]{a_1} \\ \sqrt[k]{y_r} = r - \sqrt[k]{a_r} \end{cases}$$

$$a_1 = a_r \xrightarrow{\sqrt[k]{}} \sqrt[k]{y_1} = \sqrt[k]{y_r} \rightarrow \boxed{y_1 = y_r} \quad \text{تابع زوج} \leftarrow$$

$$\text{الف) } \tan \frac{\pi}{r} (y_0) = \frac{\sqrt[r]{y}}{\frac{1}{r}} = \boxed{\sqrt[r]{y}} \quad -r$$

$$\text{ب) } \cot \frac{\pi}{r} (y) = \frac{-\sqrt[r]{y}}{\frac{1}{r}} = \boxed{-\sqrt[r]{y}}$$

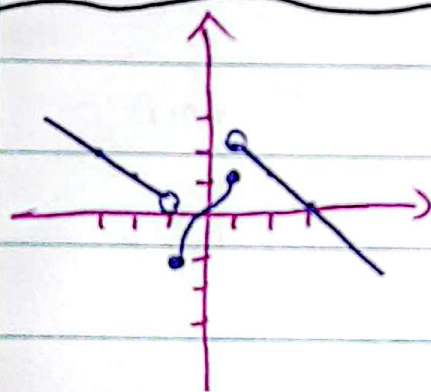
آذین

$$ج) \tan \alpha_0 \Rightarrow \frac{-\frac{1}{2}}{\frac{\sqrt{2}}{2}} = \boxed{-\frac{1}{\sqrt{2}}}$$

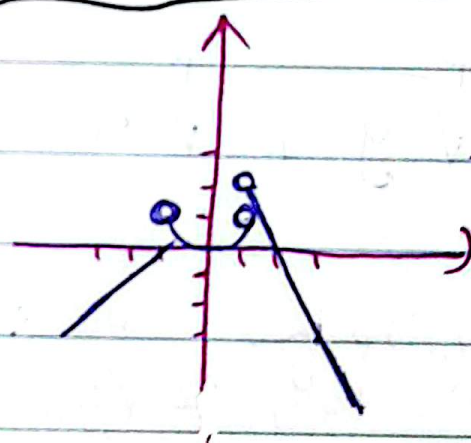
$$د) \cot \alpha_0 = \frac{\cos}{\sin} = -\frac{1}{0} \rightarrow \text{تعريف نسبه}$$

$$الف) \sin \alpha = \frac{1}{2} \begin{cases} \alpha_0 & \frac{\pi}{6} \\ \alpha_1 & \frac{5\pi}{6} \end{cases} \quad \left\{ 2k\pi + \frac{\pi}{6} \right\} - \epsilon$$

$$ب) \cos \alpha = \frac{\sqrt{2}}{2} \begin{cases} \alpha_0 & \frac{\pi}{4} \\ \alpha_1 & \frac{7\pi}{4} \end{cases} \quad \left\{ 2k\pi + \frac{\pi}{4} \right\}$$



$\alpha > 1$



$\alpha > 1$

الف) $y = \frac{(x-\mu)(x-\mu)(x-\epsilon)}{(x-\mu)(x-\mu)(x-\epsilon)}$ - 7

Sign chart: $\mu \quad \mu \quad \epsilon$
 $- \quad + \quad - \quad +$

ب) $y = \frac{(x-\mu)(x-\mu)(x-\epsilon)}{(x-\mu)(x-\mu)(x-\epsilon)}$

Sign chart: $\mu \quad \mu \quad \epsilon$
 $+ \quad - \quad - \quad +$

الف) $y = \frac{(x-\mu)(x-\epsilon)}{(x-\mu)(x-\epsilon)}$ - 8

Sign chart: $\mu \quad \mu \quad \epsilon$
 $- \quad + \quad - \quad +$

ب) $y = \frac{(x-\mu)(x-\epsilon)}{(x-\mu)(x-\epsilon)}$

Sign chart: $\mu \quad \mu \quad \epsilon$
 $+ \quad - \quad - \quad +$

الف) $y = \frac{x^2 - \mu x + \mu}{x - \mu} = \frac{(x-1)(x-\mu+x^2)}{x - \mu}$ - 9

$\frac{(x-1)(x-1)(x+\mu)}{x - \mu}$

Sign chart: $\mu \quad 1 \quad 1$
 $- \quad + \quad - \quad +$

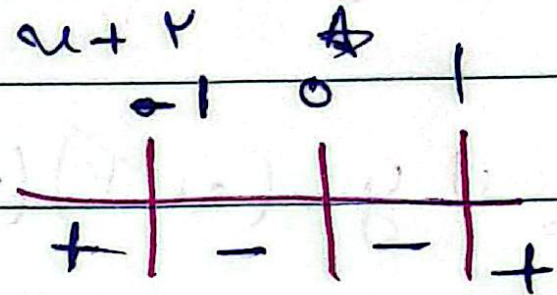
ب) $y = \frac{x^2 - \mu x + \mu}{x^2 - \epsilon x + \mu} = \frac{(x-1)(x-\mu)}{(x-1)(x-\mu)}$

Sign chart: $\mu \quad 1 \quad \mu$
 $- \quad + \quad - \quad +$

آذین

الف) $y = \frac{a^x - a^y}{a^y + a + y} = \frac{a^y(a^y - 1)}{a^y + a + y}$ -1.

مميز



ب) $y = \frac{a^y + y a + x}{a^y + y a + y}$ هم صورتی و مخرجی یکسان

این بخش علامت ندارد!!