

الف) $\begin{cases} y_1^3 = 2m_1^2 - 1 \\ y_2^3 = 2m_2^2 - 1 \end{cases} \xrightarrow{m_1 = m_2} y_1^3 = y_2^3$ صحیح است

ب) $\begin{cases} y_1^3 + y_1 = 2m_1^2 \\ y_2^3 + y_2 = 2m_2^2 \end{cases} \xrightarrow{m_1 = m_2} y_1^3 + y_1 = y_2^3 + y_2 \Rightarrow y_1^3 - y_2^3 + y_1 - y_2 = 0 \Rightarrow (y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2 + y_1 + y_2) = 0$
 $\Rightarrow (y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2 + y_1 + y_2 + 1) = 0 \Rightarrow y_1 - y_2 = 0 \Rightarrow y_1 = y_2$ صحیح است
 $y_1 = \frac{-y_2 \pm \sqrt{\Delta}}{2} \rightarrow y_1 = \frac{-y_2 \pm \sqrt{y_2^2 - 4}}{2} \rightarrow \Delta < 0$ این را باید بررسی کرد

الف) $\begin{cases} y_1^3 = 2m_1^2 - 1 \\ y_2^3 = 2m_2^2 - 1 \end{cases} \xrightarrow{m_1 = m_2} y_1^3 = y_2^3$ صحیح

ب) $\xrightarrow{m=0} |y| = 1 \Rightarrow y = \pm 1$ ✗

ج) $\begin{cases} y_1^4 = -m_1^2 + 2m_1 - 1 \\ y_2^4 = -m_2^2 + 2m_2 - 1 \end{cases} \xrightarrow{m_1 = m_2} y_1^4 = y_2^4$ صحیح

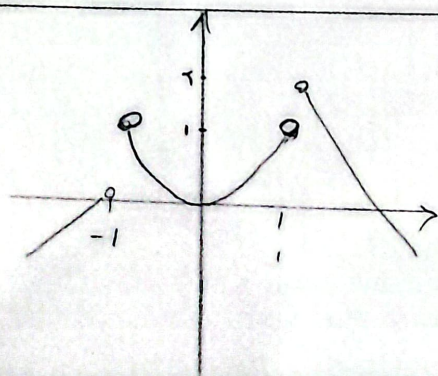
د) $\begin{cases} \sqrt[3]{y_1} = -\sqrt{m_1} + 2 \\ \sqrt[3]{y_2} = -\sqrt{m_2} + 2 \end{cases} \xrightarrow{m_1 = m_2} \sqrt[3]{y_1} = \sqrt[3]{y_2} \Rightarrow y_1 = y_2$ صحیح

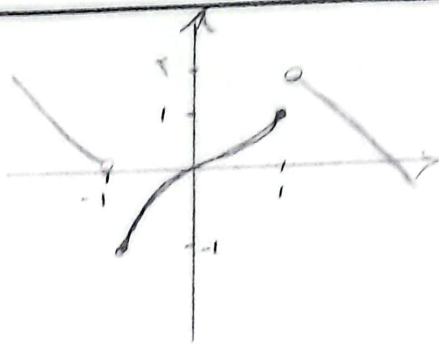
الف) $\frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \sqrt{3}$ ب) $\frac{-\frac{\sqrt{3}}{2}}{-\frac{1}{2}} = \sqrt{3}$

ج) $\frac{-\frac{1}{2}}{\frac{\sqrt{3}}{2}} = -\frac{1}{\sqrt{3}}$ د) $-\frac{1}{0}$ تعریف نشده

الف) $30^\circ, 150^\circ \rightarrow \frac{\pi}{6}, \frac{5\pi}{6}$

ب) $45^\circ, 225^\circ \rightarrow \frac{\pi}{4}, \frac{5\pi}{4}$





الف)
$$\frac{x^2}{-b} + \frac{x^3}{+b} - \frac{x^4}{b} +$$

ب)
$$+ \frac{x^2}{b} - \frac{x^3}{b} - \frac{x^4}{b} +$$

الف)
$$\frac{x^2}{-b} + \frac{x^3}{b} - \frac{x^4}{b} +$$

ب)
$$+ \frac{x^2}{b} - \frac{x^3}{b} - \frac{x^4}{b} +$$

الف)
$$\frac{(n-1)^2(n+2)}{n-2} \quad \frac{-2}{+} \quad \frac{1}{-} \quad \frac{3}{-} \quad \frac{1}{+}$$

ب)
$$\frac{(n-1)(n-2)}{(n-1)(n-2)} \quad \frac{1}{+} \quad \frac{1}{b} + \frac{2}{b} - \frac{3}{b} +$$

الف)
$$\frac{n^2(n-1)(n+1)}{n^2+n+2} \rightarrow \Delta = 1^2 - 4 \times 1 \times 2 = 1 - 8 = -7 < 0$$

 ریشه حقیقی ندارد

ب)
$$n^2+n+2 \rightarrow \Delta = 3^2 - 4 \times 1 \times 2 = 9 - 8 = 1 > 0$$

$$n^2+2n+3 \rightarrow \Delta = 2^2 - 4 \times 1 \times 3 = 4 - 12 = -8 < 0$$

تابع برای تمام اعداد حقیقی مثبت است

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