

$$\text{الف) } \begin{cases} y_1^2 = 2n_1^2 - 1 \\ y_2^2 = 2n_2^2 - 1 \end{cases} \xrightarrow{n_1=n_2} y_1^2 = y_2^2 \rightarrow y_1 = y_2$$

$$\Delta y_1 = -y_2 \pm \sqrt{(-3y_2^2 - 2) - 0} \Delta$$

بسیار این رابطه برقرار نیست
 $y_1 = y_2$

$$(y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2) + y_1 - y_2 = 0$$

$$\text{ب) } \begin{cases} y_1^2 + y_2^2 = 3n_1^2 - 1 \\ y_2^2 + y_1^2 = 3n_2^2 - 1 \end{cases} \xrightarrow{n_1=n_2} y_1^2 + y_2^2 = y_2^2 + y_1^2$$

$$(y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2 + 1) = 0$$

$$y_1^2 - y_2^2 + y_1 - y_2 = 0 \rightarrow \begin{cases} y_1 - y_2 = 0 \rightarrow y_1 = y_2 \\ y_1^2 + y_1 y_2 + y_2^2 + 1 = 0 \end{cases}$$

$$\text{الف) } \begin{cases} y_1^2 = n_1^2 - 1 \\ y_2^2 = n_2^2 - 1 \end{cases} \xrightarrow{n_1=n_2} y_1 = y_2 \checkmark$$

$$\text{ب) } |y_1 + y_2| = n_1^2 + 1 \xrightarrow{n=0} |y| = 1 \rightarrow \begin{cases} y = -1 \\ y = 1 \end{cases} \times$$

$$\text{ج) } \begin{cases} y_1^2 = -n_1^2 + 2n_1 - 1 \\ y_2^2 = -n_2^2 + 2n_2 - 1 \end{cases} \xrightarrow{n_1=n_2} y_1^2 = y_2^2 \checkmark$$

$$\text{د) } \begin{cases} \sqrt[3]{y_1} = -\sqrt[3]{n_1 + 2} \\ \sqrt[3]{y_2} = -\sqrt[3]{n_2 + 2} \end{cases} \xrightarrow{n_1=n_2} \sqrt[3]{y_1} = \sqrt[3]{y_2} \rightarrow y_1 = y_2 \checkmark$$

$$\text{الف) } \tan \frac{\pi}{4} \rightarrow \frac{\sin}{\cos} = \frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \sqrt{3}$$

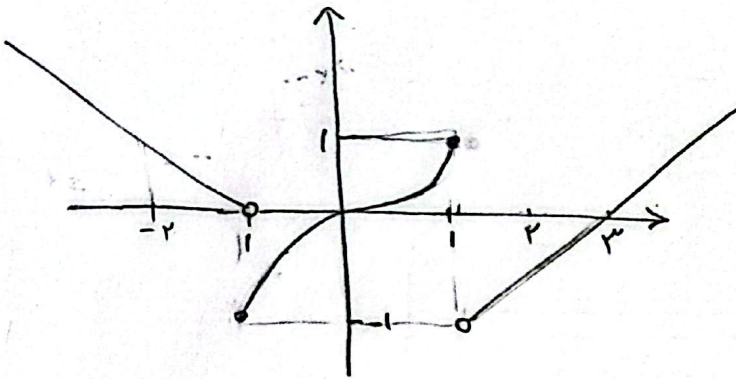
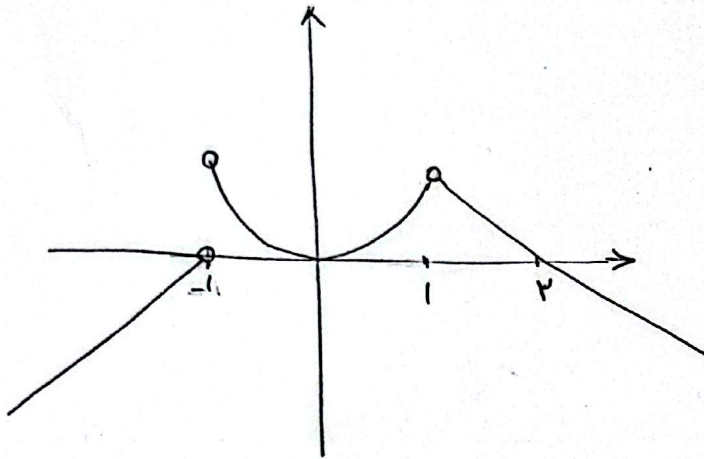
$$\text{ب) } \cot + \sqrt{\frac{\pi}{4}} \rightarrow \frac{\cos}{\sin} = \frac{-\frac{\sqrt{3}}{2}}{\frac{1}{2}} = -\sqrt{3}$$

$$\text{ج) } \tan 330^\circ \rightarrow \frac{\sin}{\cos} = \frac{-\frac{1}{2}}{\frac{\sqrt{3}}{2}} = -\frac{1}{\sqrt{3}}$$

$$\text{د) } \cot + 180^\circ \rightarrow \frac{\cos}{\sin} = \frac{1}{0} \text{ بی‌نهایت}$$

$$\text{الف) } \sin \alpha = \frac{1}{2} \quad \alpha = \frac{\pi}{6}, \frac{5\pi}{6}$$

$$\text{ب) } \cos \alpha = \frac{\sqrt{3}}{2} \quad \alpha = \frac{\pi}{6}, \frac{11\pi}{6}$$



الف) $y = (x-2)(x-3)(x-4)$

$(x-2)(x-3)(x-4) = 0 \Rightarrow \begin{cases} x=2 \\ x=3 \\ x=4 \end{cases}$

$$\begin{array}{c} 2 \quad 3 \quad 4 \\ - \quad + \quad - \quad + \end{array}$$

ب) $y = (x-2)(x-3)(x-4)$

$(x-2)(x-3)(x-4) = 0 \Rightarrow \begin{cases} x=2 \\ x=3 \\ x=4 \end{cases}$

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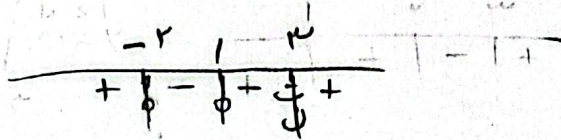
الف) $\begin{array}{c} 2 \quad 3 \quad 4 \\ - \quad + \quad - \quad + \end{array}$

ب) $\begin{array}{c} 2 \quad 3 \quad 4 \\ + \quad - \quad + \quad + \end{array}$

الف) $x^2 - 4x + 2 = 0$

$\begin{cases} x=1 \\ x=5 \end{cases}$

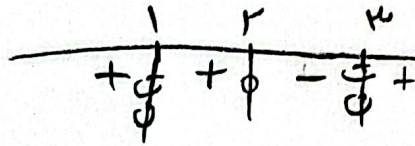
$\begin{cases} x-2=0 \\ x=2 \end{cases}$



ب) $x^2 - 2x + 2 = 0$

$\begin{cases} x=1 \\ x=2 \end{cases}$

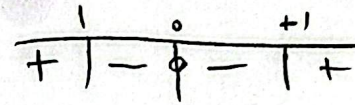
$\begin{cases} x^2 - 4x + 3 = 0 \\ x=1 \\ x=3 \end{cases}$



الف) $x^2 + x + 2 = 0$

$\Delta = 1^2 - 4 \times 1 \times 2 = -7 < 0$ خرج صلبه -

فقط اعداد کسری $x^2 - x^2$
با اینکه عدد توان کسری می باشد



ب) $x^2 + 2x + 2 = 0$

$\Delta = 2^2 - 4 \times 1 \times 2 = -4 < 0$ صورت صلبه -

$x^2 + 2x + 2$

$\Delta = 2^2 - 4 \times 1 \times 2 = -4 < 0$ خرج صلبه -

