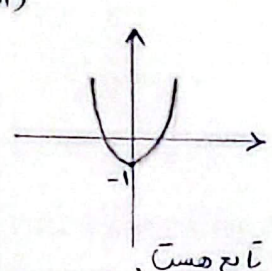
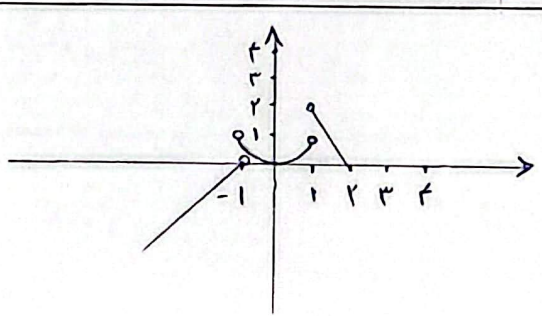
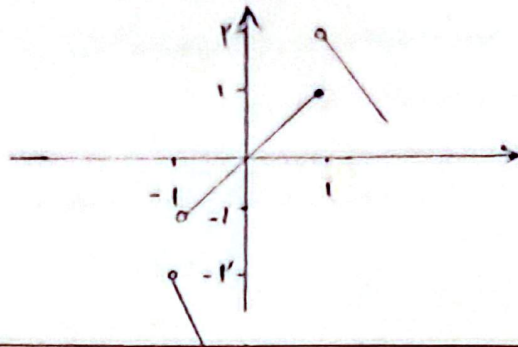
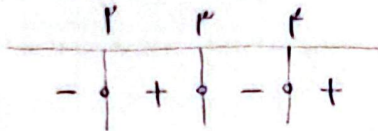


الف) $\begin{cases} y_1^2 = 2x_1^2 - 1 \\ y_2^2 = 2x_2^2 - 1 \end{cases} \xrightarrow{x_1 = x_2} y_1^2 = y_2^2$ $y_1 = y_2$ عبارت تابع است.	ب) $\begin{cases} y_1^2 + y_1 = 3x_1^2 - 1 \\ y_2^2 + y_2 = 3x_2^2 - 1 \end{cases} \xrightarrow{x_1 = x_2}$ $y_1^2 + y_1 = y_2^2 + y_2 \rightarrow y_1^2 - y_2^2 + y_1 - y_2 = 0$ $(y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2 + 1) = 0$ $\Rightarrow \begin{cases} y_1 - y_2 = 0 \rightarrow y_1 = y_2 \\ y_1^2 + y_1 y_2 + y_2^2 + 1 = 0 \rightarrow \Delta < 0 \end{cases}$ برقرار نیست.	۱	عبارت تابع است.	
الف)  تابع هست.	ب) $ y + xy = x^2 + 1$ $x=0 \rightarrow y = 1$ $y = \pm 1$ تابع نیست.	ج) $\begin{cases} y_1^2 = 2x_1 - 1 - x_1^2 \\ y_2^2 = 2x_2 - 1 - x_2^2 \end{cases} \xrightarrow{x_1 = x_2} y_1^2 = y_2^2$ $y_1 = y_2$ تابع هست.	د) $\sqrt[3]{y} = 2 - \sqrt{x}$ $y = (2 - \sqrt{x})^3$ تابع هست.	۲
الف) $\frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}} = \sqrt{3}$	ب) $\frac{-\frac{\sqrt{3}}{2}}{-\frac{1}{2}} = \sqrt{3}$	ج) $\frac{-\frac{1}{2}}{\frac{\sqrt{3}}{2}} = -\frac{1}{\sqrt{3}} = -\frac{\sqrt{3}}{3}$	د) $-\frac{1}{0} \rightarrow \text{قربین ریشه}$	۳
الف) $\sin \alpha = \frac{1}{r}$ $Df = \left\{ 2k\pi + \frac{\pi}{4} \right\} \cup \left\{ 2k\pi + \pi - \frac{\pi}{4} \right\}$	ب) $\cos \alpha = \frac{\sqrt{2}}{2}$ $Df = \left\{ 2k\pi + \frac{\pi}{4} \right\} \cup \left\{ 2k\pi - \frac{\pi}{4} \right\}$ یا $Df = \left\{ 2k\pi \pm \frac{\pi}{4} \right\}$	۴		
				۵

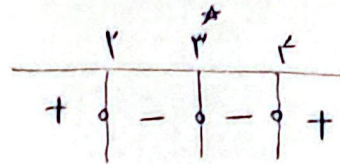


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الف) $n = 2, n = 3, n = 2$

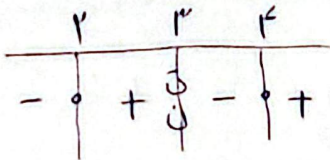


ب) $n = 2, n = 3^*, n = 2$

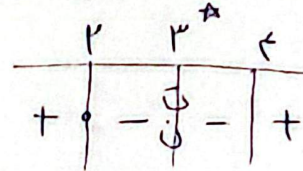


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الف) $n = 2, n = 2, n = 3$



ب) $n = 2, n = 2, n = 3^*$

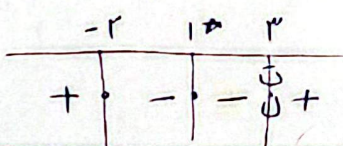


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$$\frac{(n-1)(n+2)(n-1)}{n-3}$$

الف)

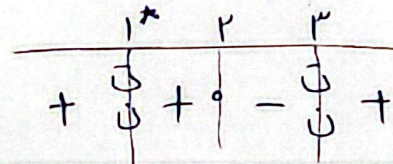
$$n = 1^*, n = -2, n = 3$$



$$\frac{(n-1)(n-2)}{(n-3)(n-1)}$$

ب)

$$n = 1^*, n = 2, n = 3$$

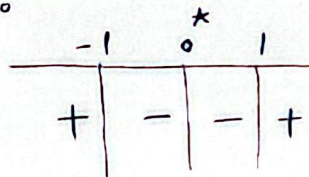


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الف) $\frac{n^2(n^2-1)}{n^2+n+2}$ $\Delta = b^2 - 4ac$

$$1 - 1 = -1 \Delta < 0$$

$$n^2(n^2-1) = 0$$



ب) $\frac{n^2+n+2}{n^2+n+2} = 1$ $\Delta = b^2 - 4ac$

$$\left. \begin{array}{l} 4 - 14 = -10 \Delta < 0 \\ 1 - 12 = -11 \Delta < 0 \end{array} \right\} \text{هنا } (+)$$

١٠