

$$y_1^3 + y_1 = 3x_1^2 - 1$$

$$y_2^3 + y_2 = 3x_2^2 - 1$$

$$\xrightarrow{x_1 = x_2}$$

$$y_1^3 + y_1 = 3x_1^2 - 1$$

$$y_2^3 + y_2 = 3x_2^2 - 1$$

ب ←

$$\rightarrow y_1^3 + y_1 = y_2^3 + y_2 \rightarrow$$

$$\rightarrow (y_1^3 - y_2^3) + (y_1 - y_2) = 0 \rightarrow (y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2) + (y_1 - y_2) = 0$$

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

نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره کلاس *یادداشت* *تایید است* $y_1 = y_2$ ✓

$$y_1^3 + y_2 y_1 + y_2^2 + 1 = 0 \rightarrow \Delta = (y_2)^2 - 4(y_2^2 + 1) = -3y_2^2 + 4$$

۱۷/۵

$$\text{الف) } \rightarrow \begin{cases} y_1^3 = 3x_1^2 - 1 \\ y_2^3 = 3x_2^2 - 1 \end{cases} \xrightarrow{x_1 = x_2} y_1^3 = y_2^3 \rightarrow y_1 = y_2$$

ریشه ندارد

نقص

۱/۱۵

$$\text{ب) } \rightarrow \begin{cases} y_1^3 + y_1 = 3x_1^2 - 1 \rightarrow 2y_1^3 = 3x_1^2 - 1 \\ y_2^3 + y_2 = 3x_2^2 - 1 \rightarrow 2y_2^3 = 3x_2^2 - 1 \end{cases} \xrightarrow{x_1 = x_2} 2y_1^3 = 2y_2^3 \rightarrow y_1 = y_2$$

اینجا چیست؟

بالا صفر

سوال ۱۲

$$\text{الف) } \rightarrow \begin{cases} y_1 = x_1^2 - 1 \\ y_2 = x_2^2 - 1 \end{cases} \xrightarrow{x_1^2 = x_2^2} y_2 = y_1 \quad \checkmark$$

$$\text{ب) } \xrightarrow{x=0} |y|=1 \begin{cases} y=1 \\ -y=1 \rightarrow y=-1 \end{cases} \quad \times$$

ج) $\checkmark$

$$\text{ج) } \rightarrow \begin{cases} y_1^3 + x_1^3 = 2x_1 - 1 \rightarrow x_1^3 - 1 = y_1^3 \\ y_2^3 + x_2^3 = 2x_2 - 1 \rightarrow x_2^3 - 1 = y_2^3 \end{cases} \xrightarrow{x_1^3 = x_2^3} y_1 = y_2$$

$$\text{د) } \rightarrow \begin{cases} \sqrt[3]{y_1} = -\sqrt[3]{x_1} + 2 \\ \sqrt[3]{y_2} = -\sqrt[3]{x_2} + 2 \end{cases} \xrightarrow{\sqrt[3]{x_1} = \sqrt[3]{x_2}} \sqrt[3]{y_1} = \sqrt[3]{y_2} \Rightarrow y_1 = y_2$$

الف) $\frac{\sin \theta_0}{\cos \theta_0} = \frac{\sqrt{3}}{\frac{1}{\sqrt{3}}} = \sqrt{3}$

تمريف نشره x $\rightarrow \frac{-1}{0}$

ب) ~~$\frac{\cos \theta_0}{\sin \theta_0} = -1$~~ $\cot \frac{\pi}{4} = \frac{-\frac{\sqrt{3}}{2}}{-\frac{1}{2}} = \sqrt{3}$ 1.5

ج) $\frac{\frac{1}{\sqrt{3}}}{\frac{1}{\sqrt{3}}} = \sqrt{3}$

٣

الف) $\alpha = \frac{\pi}{4} \leq \frac{5\pi}{4}$

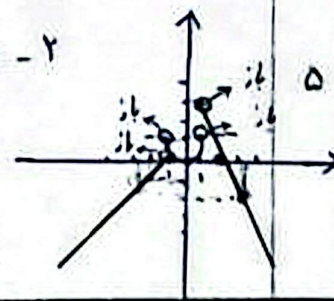
ب) $\alpha = \frac{\pi}{4} \leq \frac{3\pi}{4}$ (ب) ✓

٤

$$f(n) = \begin{cases} -2n+4 & n > 1 \\ n^2 & -1 < n < +1 \\ n+1 & n < -1 \end{cases}$$

$\xrightarrow{n=1} f(n)=2$ $\xrightarrow{n=2} f(n)=0$ $\xrightarrow{n=3} f(n)=-2$
 $\xrightarrow{n=0} f(n)=0$ $\xrightarrow{n=1} f(n)=1$ $\xrightarrow{n=-1} f(n)=1$
 $\xrightarrow{n=-1} f(n)=0$ $\xrightarrow{n=-2} f(n)=-1$ $\xrightarrow{n=-3} f(n)=-2$

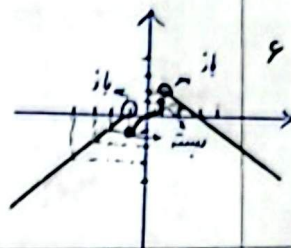
(ب) ✓



٥

$$f(n) = \begin{cases} -n+3 & n > 1 \xrightarrow{n=1} f(n)=2 \xrightarrow{n=2} f(n)=1 \xrightarrow{n=3} f(n)=0 \\ n^2 & -1 < n < 1 \xrightarrow{n=-1} f(n)=-1 \xrightarrow{n=0} f(n)=0 \xrightarrow{n=1} f(n)=1 \\ -n-1 & n < -1 \xrightarrow{n=-1} f(n)=0 \xrightarrow{n=-2} f(n)=1 \xrightarrow{n=-3} f(n)=2 \end{cases}$$

(2) ✓



الف) $y = (n-2)(n-3)(n-4)$

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

(2) ✓

ب) $y = (n-2)(n-3)(n-3)(n-4)$

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

7

الف) $y = \frac{(n-2)(n-4)}{n-3}$

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

ب) $y = \frac{(n-2)(n-4)}{(n-3)(n-3)}$

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

8

الف) $y = \frac{(n-2)(n-1)}{(n-3)}$

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

$(n-1)^2(n+2)$
 $(n-3)$

(1)

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

9

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

$$\begin{array}{c} 1 \quad 2 \quad 3 \\ + \quad \phi \quad + \quad \phi \quad - \quad \phi \quad + \end{array}$$

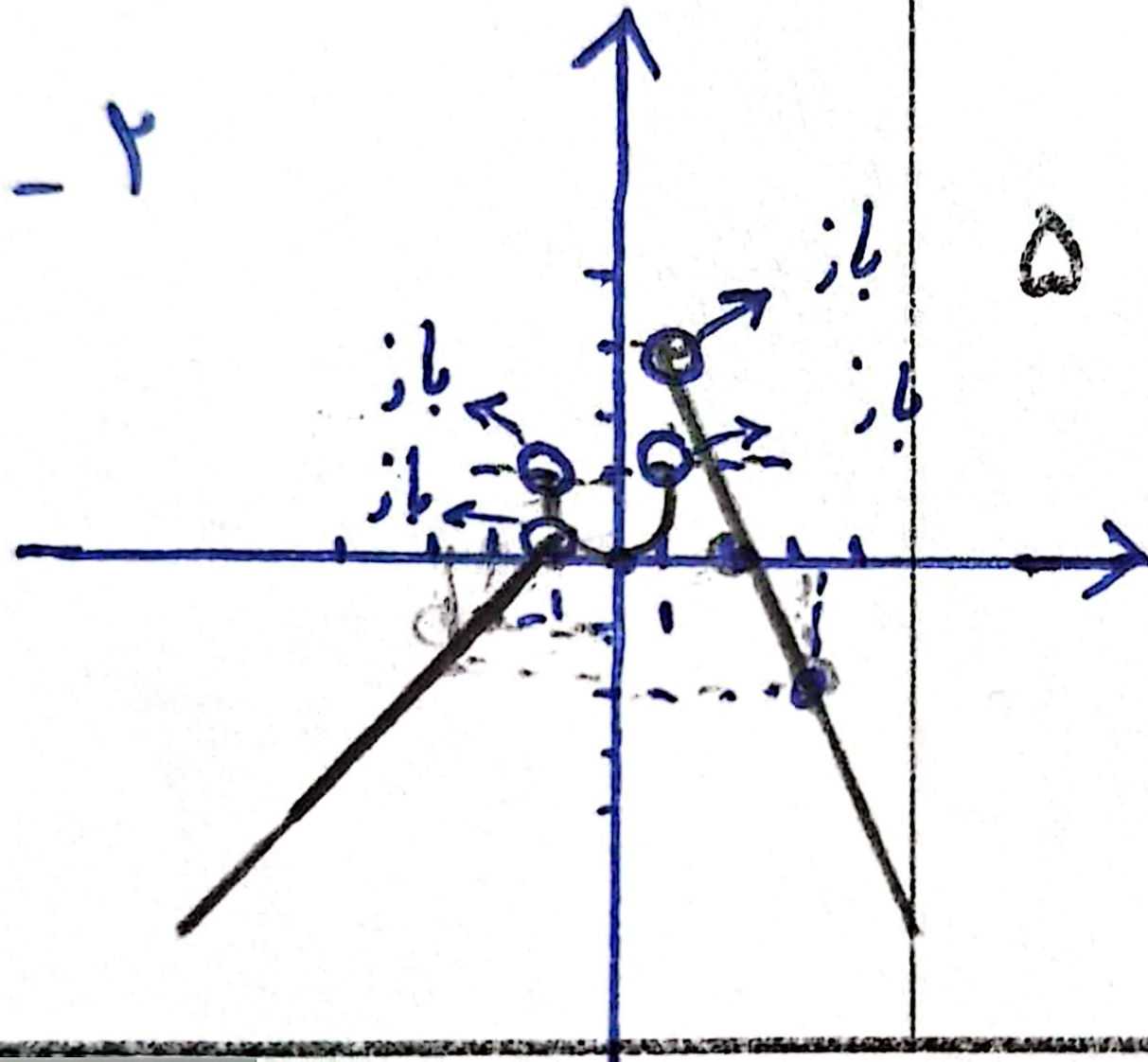
الف) $y = \frac{n^2(n-1)(n+1)}{n^2+n+2}$

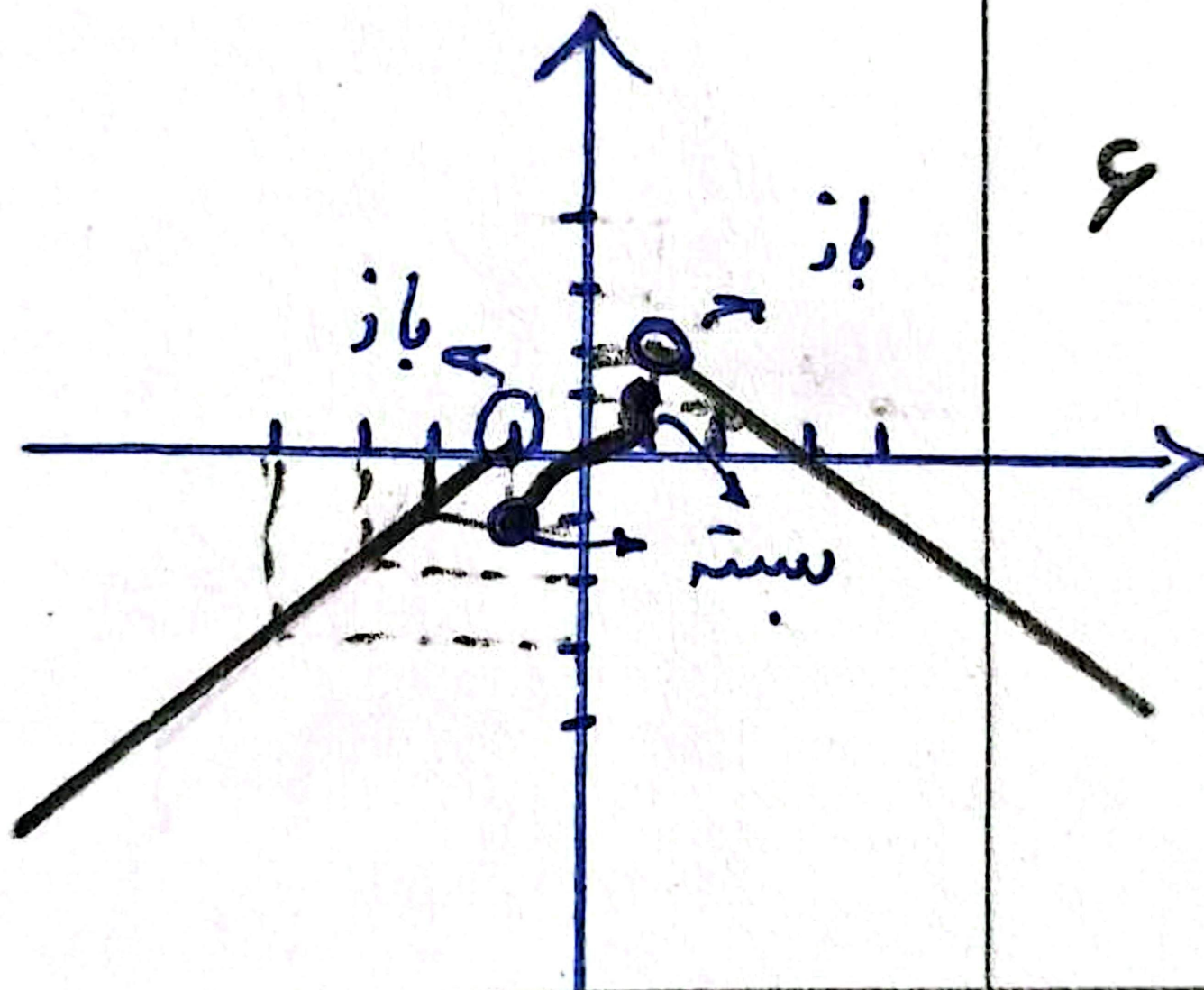
$$\begin{array}{c} -1 \quad 0 \quad 1 \\ + \quad \phi \quad - \quad \phi \quad - \quad \phi \quad + \end{array}$$

ب) $y = \frac{n^2+n+4}{n^2+2n+3}$ → دنا منی (کسر صحیح نیست است) $\frac{1,175}{1,175}$

10

$$= -\gamma$$





۶