

$$f(x) = f(x) \cdot x = x \cdot f(x) \rightarrow f(x) = x$$

$$f(x) = ax + b \rightarrow a(x+1) + b + a(x+2) + b = 3x + 3$$

$$2ax + a + a + 2a + b = 3x + 3 \rightarrow 2ax + 3a + 2b = 3x + 3 \rightarrow a = 1$$

$$\rightarrow b = 0$$

$$f(x) = x \rightarrow y = \sqrt{x - x^2}$$

$$\rightarrow y = \sqrt{x(1-x)} \rightarrow x \in (0, 1) \rightarrow y \in \left[0, \frac{1}{2}\right] \rightarrow \text{Def} = \left(-\infty, \frac{1}{2}\right]$$

$$f(x) = \frac{x(x^2 - 4)}{x + 2} \rightarrow x(x-2) \rightarrow x^2 - 2x \rightarrow \text{Def} = \left[-\frac{\Delta}{2a}, +\infty\right) \rightarrow \left(\frac{-1}{2} + \infty\right)$$

$$\textcircled{1} \text{ حل الجذور } \rightarrow x^2 - 2x = 1 \rightarrow x^2 - 2x - 1 = 0 \rightarrow (x-3)(x+1)$$

$$\rightarrow f\left(\frac{x-1}{x+1}\right) \rightarrow (-1)^2 - 2(-1) \rightarrow 3$$

حرج كسره تابع خطی سین دابل هلفه كلاس

$$\sqrt[3]{(x-2)^3} \rightarrow \sqrt[3]{x^3 + 12x^2 - 4x^2 - 1}$$

$$\rightarrow \text{Def} \rightarrow [-4, 12] \rightarrow \text{جوابی} \rightarrow x-2 \rightarrow -4 \rightarrow -1 \rightarrow 12 \rightarrow 10$$

$$\left. \begin{array}{l} -4 \rightarrow -1 \\ 12 \rightarrow 10 \end{array} \right\} \text{Def} = [-1, 10]$$

$$y_1 = \left(\frac{x+1}{1-x}\right)^{\frac{1}{2}} \rightarrow \frac{x+1}{1-x} > 0 \rightarrow \frac{-1}{-1+2} \rightarrow \text{Def} = [-1, 1)$$

$$y_2 = \frac{ax^2 - 1}{x^2 + b} \rightarrow \text{max } ax^2 = \infty \rightarrow a \rightarrow \text{بزرگترین مقدار} \rightarrow 1 \rightarrow a = 1$$

$$\text{min } ax^2 = 0 \rightarrow -\frac{1}{b} \rightarrow \text{کوچکترین مقدار} \rightarrow -1 \rightarrow b = 1$$

$$\left. \begin{array}{l} a = 1 \\ b = 1 \end{array} \right\} a + b = 2$$

$$[-1, 0) \rightarrow \frac{-1}{x} - \frac{x}{x} \rightarrow -\frac{1}{x} - 1$$

$$x=0 \rightarrow \infty$$

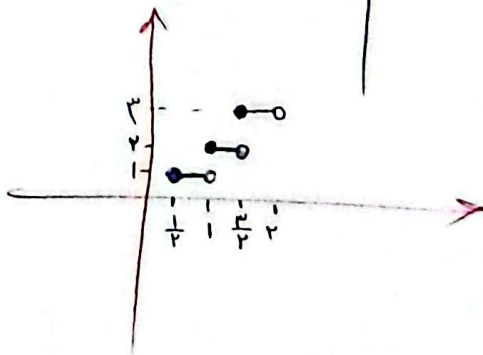
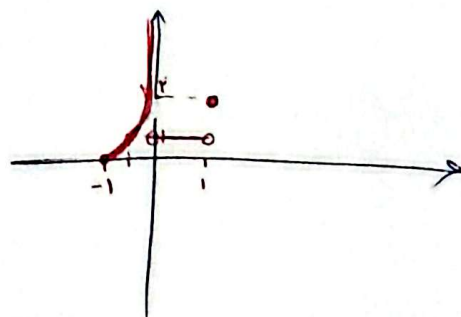
$$(0, 1) \rightarrow 1 \rightarrow \left[\frac{x}{2}, \frac{1}{2}\right] \text{ و } [0, \frac{x}{2}] \text{ حرج}$$

$$x=1 \rightarrow 2$$

$$\left[\frac{1}{2}, 1\right) \rightarrow 0 + 1 = 1$$

$$\left[1, \frac{3}{2}\right) \rightarrow 1 + 1 = 2$$

$$\left[\frac{3}{2}, 2\right) \rightarrow 1 + 2 = 3$$



$$\left| \frac{a+1}{a^2+a+1} \right| < 1 \rightarrow -1 < \frac{a+1}{a^2+a+1} < 1$$

$$\frac{-a^2-1 \leq a+1 \leq a^2+a+1}{a+1 \neq 0}$$

$$1 - (-1) = 2$$

$$\begin{aligned} (-a-1)a &= \varepsilon \\ \xrightarrow{a,b} -ab - b &= \varepsilon \end{aligned}$$

$$(a-1)a = -2$$

$$\xrightarrow{a,b} ab - bz - 2 \Rightarrow \begin{cases} ab - bz = 2 \\ -2b = 2 \end{cases}$$

$$a = 3$$

$$b = -1$$

$$\begin{aligned} a=2 &\rightarrow \begin{vmatrix} 2 & 2 \\ 4 & -2 \end{vmatrix} \\ b=1 &\rightarrow \begin{vmatrix} 5 & 1 \\ 1 & -1 \end{vmatrix} \end{aligned}$$

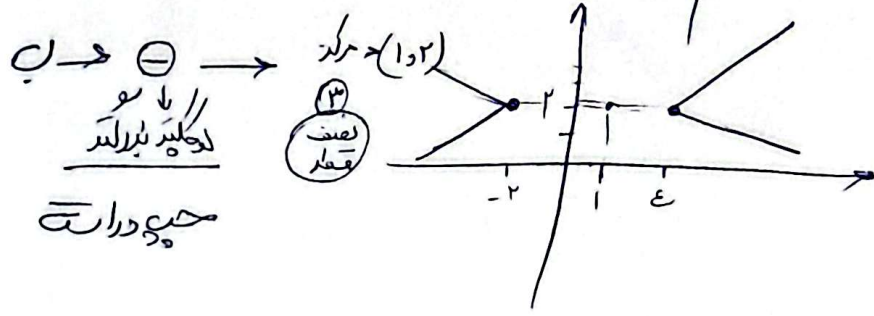
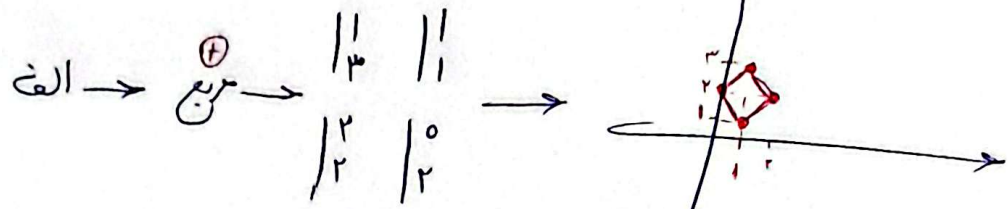
$$2 - a + b - 1 = 3$$

$$a - 2 + b - 1 = 3$$

$$2 - a + 1 - b = 3$$

$$a - 2 + 1 - b = 3$$

$$\oplus \rightarrow \text{مربع}$$



$$a \rightarrow \in \mathbb{R} \rightarrow$$

$$-3 \leq 3$$

$$\leftarrow \frac{p}{x_0} \text{ باید صغری}$$