

$$f(x) = x^2 + 2mx + 1 + 9x^2 - 4x + 1 + m^2x^2 + n^2x + mn = (10+m)x^2 + (n-2)x + 2+mn \xrightarrow{\text{دسته ۱}} \text{پایه ۱}$$

$$10+m=0 \Rightarrow m=-10 \text{ و } n-2=0 \Rightarrow n=2 \Rightarrow f(x) = 2x^2 - 2x - 38$$

$$g(x) = \{(\varepsilon, -1), (\varepsilon+1, 1), (1, 2), (-1, -9), (1, k)\} \Rightarrow P+1 = -1 \Rightarrow P = -2 \Rightarrow P+k = k-11 = -1 \Rightarrow k = 10$$

$$\Rightarrow m+n+P+k = -10 + 2 + (-2) + 10 = -7$$

$$\varepsilon - 2[-x] \neq 0 \Rightarrow 2 \neq [-x]$$

$$\begin{aligned} [-(-1, 5)] &= 1 \\ [-(-2)] &= 2 \\ [-(-2, 8)] &= 2 \\ D_f^R &= [5, -2] \end{aligned}$$

(ب)

$$\begin{aligned} y &= \sqrt{\frac{x-2}{x^2-2x-1}} = \sqrt{\frac{x-2}{(x-2)(x+1)}} \\ &= \sqrt{\frac{x-2}{(x-2)(x+1)}} \Rightarrow \frac{-2}{x+1} + \frac{2}{x+1} \\ D_f &= (-\infty, -1) \cup (1, \infty) \end{aligned}$$

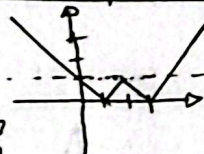
(الف)

$$\begin{aligned} \Rightarrow D_f &= [-1, 1] \\ \Rightarrow D_f &= [-1, 1] \\ \Rightarrow D_f &= [-1, 1] \end{aligned}$$

الف) صریح به ازای R^- و R^+ به معنای درجه ۱ و ۲ است.
پیش و امتداد صریح (۲ و ۱) است.

$$\begin{aligned} x(x+1)(x-1) &\gg \frac{-1}{1-x} + \frac{1}{1+x} \\ \Rightarrow D_f &= [1, \infty) \end{aligned}$$

$$\begin{aligned} \Rightarrow D_f &= [-1, 1] \\ \Rightarrow D_f &= [-1, 1] \\ \Rightarrow D_f &= [-1, 1] \end{aligned}$$

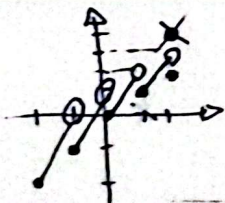
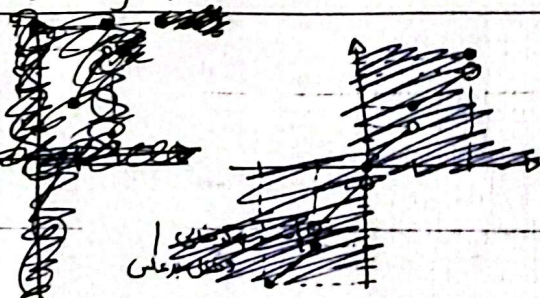


تابع ثابت K باید با نمودار شکل
رسم شود، ۳ نقطه برخورد داشته باشد.

تابع K با ۳ عدد صحیح برخورد داشته باشد.

$$1 = K \Rightarrow \text{رسم هاینام م} \{0, 2, 4\} \text{ هست}$$

$$\begin{aligned} [-1, -1] &\rightarrow [x] = -2 \rightarrow y = 2x + 2 \rightarrow y = [-2, 0] \\ [-1, 0] &\rightarrow [x] = -1 \rightarrow y = 2x + 1 \rightarrow y = [-1, 1] \\ [0, 1] &\rightarrow [x] = 0 \rightarrow y = 2x \rightarrow y = [0, 2] \\ [1, 2] &\rightarrow [x] = 1 \rightarrow y = 2x + 1 \rightarrow y = [1, 3] \\ [2, 4] &\rightarrow [x] = 2 \rightarrow y = 2x + 2 \rightarrow y = [2, 6] \end{aligned}$$



$$f(n) \xrightarrow{3} f(n) = n = \frac{n^2 - \sum n + 3}{n+1} + b = \frac{n^2 - \sum n + b + 3}{n+1} \rightarrow ab = -3$$

$$\frac{n^2 + (b-3)n}{n+1} = n \frac{(n+b-3)}{n+1} = n \rightarrow a = b-3, ab = -3 \rightarrow a = 3, b = -1 \Rightarrow a-b = -3$$

★ البدان سوال غلط است چون اين تابع در ردي صحيح داره يعنى مثل معادله R نيست!

$$\frac{(n^2 + 2n - n - 2)}{n^2 - 1} = \frac{(n-1)(n+3n+2)}{n^2 - 1} = \frac{(n-1)(n+1)(n+2)}{(n-1)(n+1)} = n+2 \rightarrow \underline{C=2}$$

$$f(1, -1) \rightarrow \frac{a+2}{1+b} = 1+2=3, \frac{-a+2}{1+b+1} = -1+2=1$$

$$\left. \begin{array}{l} a+2=3b+2 \rightarrow 3b-a=-1 \\ 2-a=b-1 \rightarrow -b-a=-3 \end{array} \right\} \Rightarrow kb=2 \rightarrow a=0, b=\frac{1}{2} \Rightarrow b+c=\frac{1}{2}+2=\frac{5}{2}$$

$$\left. \begin{array}{l} f(n) \rightarrow b - \sum n \gg 0 \Rightarrow a \leq \frac{b}{\sum} \\ g(n) \rightarrow \sum n - 3a \gg 0 \Rightarrow a > \frac{\sum}{3} \end{array} \right\} \xrightarrow{\text{مقدار اعلى مستقيم}} \frac{b=3}{\sum} \frac{a=1}{\sum} \rightarrow b=3, a=\frac{3}{\sum}$$

$$f(n) = \sqrt{\sum n - \sum} + k-1, g(n) = \sqrt{\sum - \sum n} + 3k \Rightarrow 2f+g(1) = 0 + k-2 + 0 + 3k$$

$$3a - \frac{b}{\sum} - k = \sum - 2 + \frac{1}{\sum} = 3 \Rightarrow -k-2=k \rightarrow k=-1$$

$$D_f \cap D_g = [-1, \sqrt{2}], D_g \Rightarrow 2n+2 \gg 0 \Rightarrow n > -1 \rightarrow D_g = [-1, \infty) \rightarrow D_f = (-\infty, \sqrt{2}] \Rightarrow$$

$$\rightarrow m-n > 1 \rightarrow m > n \rightarrow m=2 \rightarrow f-g(2) = 2+n - 2\sqrt{2} = 4\sqrt{2} \rightarrow 2+n = 4\sqrt{2}$$

$$n = 4\sqrt{2} - 2 \rightarrow m+n = 2 + 4\sqrt{2} - 2 = 4\sqrt{2}$$

$$\begin{array}{l} [-2, -1] \rightarrow [n] = -2 \rightarrow y = n+2 \rightarrow R_f = [0, 1] \\ [-1, 0] \rightarrow [n] = -1 \rightarrow y = n+1 \rightarrow R_f = [1, 2] \\ [0, 1] \rightarrow [n] = 0 \rightarrow y = n+0 \rightarrow R_f = [2, 3] \\ [1, 2] \rightarrow [n] = 1 \rightarrow y = n+1 \rightarrow R_f = [3, 4] \\ [2, 3] \rightarrow [n] = 2 \rightarrow y = n+2 \rightarrow R_f = [4, 5] \end{array}$$

