

دوازدهم رفتن A

سپاره شریف:

نام = فاطمه سید حسینی

$$D_{f(x)} = [-2, 4] \Rightarrow f\left(\frac{3x+2}{5}\right) \Rightarrow -2 \leq \frac{3x+2}{5} \leq 4 \Rightarrow -10 \leq 3x+2 \leq 20 \Rightarrow$$

$$-12 \leq 3x \leq 18 \Rightarrow -4 \leq x \leq 6 \Rightarrow \text{دامنه مورد نظر} = [-4, 6]$$

$$D = [-3, 3] \xrightarrow{f(3x-2)} D_{f(x)} = [-1, 5]$$

(1) (5)

$$f\left(\frac{3x+1}{2}\right) \rightarrow D = [-1, 3]$$

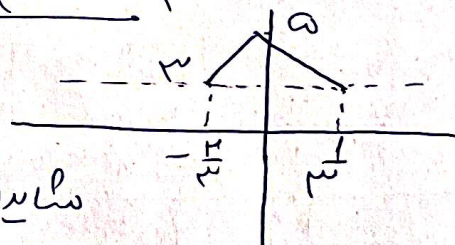
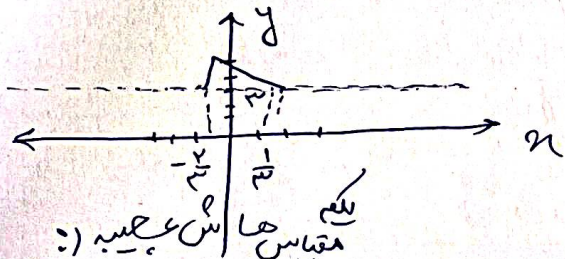
$$\xrightarrow{\text{مابیناری}} D_{f(x)} = [-1, 5] \Rightarrow f(2-5x) \Rightarrow$$

$$-1 \leq 2-5x \leq 5 \Rightarrow -3 \leq -5x \leq 3 \Rightarrow -\frac{3}{5} \leq x \leq \frac{3}{5} \Rightarrow$$

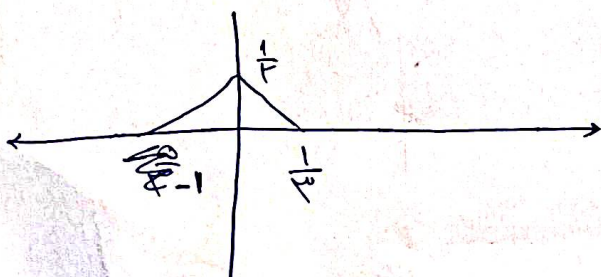
$$\text{دامنه } D = \left[-\frac{3}{5}, \frac{3}{5}\right]$$

$$D_f = [-1, 2] \Rightarrow D_{f(3x+1)} = -1 \leq 3x+1 \leq 2 \Rightarrow -2 \leq 3x \leq 1 \Rightarrow$$

$$\left[-\frac{2}{3} \leq x \leq \frac{1}{3}\right]$$



$$-1 \leq x \leq \frac{1}{3} \quad \Leftarrow \quad -1 \leq -3x \leq 2 \quad \Leftarrow \quad 1 \leq 2-3x \leq 5 \quad \Leftarrow \quad \text{دامنه}$$



$$f(2) = 2 \rightarrow \frac{1}{3} f(2-3x)$$

$$\Rightarrow \boxed{x=0, y=1}$$

رأس اولیہ سری راہی کیسے

$$n_s = \frac{-\frac{2}{a}}{-\frac{2}{a}} = \frac{2}{a} \rightarrow y_s = \frac{21}{2a} \Rightarrow S \left(\frac{2}{a}, \frac{21}{2a} \right)$$

رأس جہدہ سری: $(\varepsilon, 2) \rightarrow \begin{cases} \text{انتقال} = \frac{17}{a} \\ \text{انتقال} = \frac{47}{2a} \end{cases} \Rightarrow -\frac{1}{2} \left(n - \frac{17}{a} \right)^2 + \frac{2}{a} \left(n - \frac{17}{a} \right) + 1 + \frac{47}{2a}$

$$= -\frac{1}{2} \left(n - \varepsilon \right)^2 + 2 \Rightarrow (n - \varepsilon)^2 = 4 \rightarrow \boxed{n = 1 \pm \frac{2}{a}}$$

سری $n_s = 1 \Rightarrow 2n + 2 = 1 \Rightarrow n = \left(-\frac{1}{2} \right)$

سری $y_s = 1 - 2f(1) = 1 - 2(\varepsilon) = \boxed{-7}$

$$\Rightarrow \begin{cases} \alpha = -\frac{1}{2} \\ \beta = -7 \end{cases} \Rightarrow \boxed{\alpha \beta = \frac{7}{2}}$$

$Df = (a, \varepsilon]$ $Df(n-1): a < n-1 \leq \varepsilon \Rightarrow \boxed{a+1 < n \leq \varepsilon}$

$Dg = [-1, b)$ $Dg(n+1): -1 \leq n+1 < b \Rightarrow \boxed{-2 \leq n < b-1}$

سری حالت ملن

$$\Rightarrow \begin{cases} a+1 = -2 \rightarrow \boxed{a = -4} \\ b-1 = \varepsilon \rightarrow \boxed{b = \varepsilon + 1} \end{cases} \Rightarrow a - b = \boxed{-9}$$

$f\left(\frac{n}{2} + 1\right) \Rightarrow Df(n) = \left[-\frac{1}{2}, \frac{2}{2}\right]$

$n = -2 \rightarrow n = \varepsilon$

$y_1 = \sqrt{|2f(n) - 3|}$ $\Rightarrow$ y_1 سے b فنکشن میں y_1 کے لیے f کی رینج $\left[-\frac{1}{2}, \frac{2}{2}\right]$ ہے۔

$-1 \leq f(n) \leq 2 \Rightarrow 2 \leq 2f(n) \leq 4 \Rightarrow -2 \leq 2f(n) - 3 \leq 1 \Rightarrow$

$0 \leq |2f(n) - 3| \leq 1 \Rightarrow 0 \leq \sqrt{|2f(n) - 3|} \leq 1 \Rightarrow R_f = [0, 1]$ $\Rightarrow$ $R_f = [0, \sqrt{1}]$

ابتدائی شکل نمودار را رسم می کنیم

$f(n) = \left| \frac{n+1}{2n+1} \right| \rightarrow f(n) = \left| \frac{n-1}{2n+1} \right| + 1 = g(n)$

$n + g(n) < 0 \Rightarrow g(n) < -n$

$g(n) = \left| \frac{n-1}{2n+1} \right| + 1 = -n \Rightarrow \frac{n-1}{2n+1} = 1 + n \rightarrow \boxed{n = -2}$

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جواب $= \boxed{(-\infty, -2]}$