

$$-2 \leq \frac{5a+2}{8} \leq 2 \rightarrow -10 \leq 5a+2 \leq 10$$

$$-12 \leq 5a \leq 8$$

$$-2.4 \leq a \leq 1.6$$

$$D_f = [-2.4, 1.6]$$

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$$-2 \leq a \leq 2 \rightarrow -2 \leq 3a-2 \leq 4 \rightarrow 0 \leq 3a \leq 6$$

$$\Rightarrow D_{f(a)} = +2(3-2) \leq 3a-2 \leq 4(2)-2$$

$$\Rightarrow D_f = [-1, 4]$$

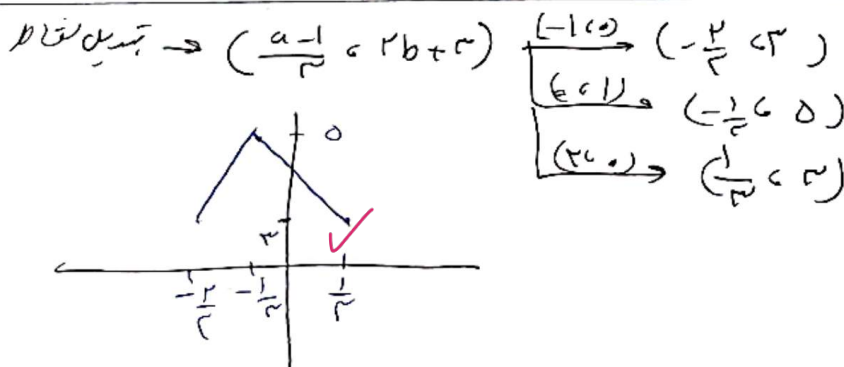
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$$-1 \leq a < 3 \rightarrow -1 \leq \frac{5a+1}{2} < 5$$

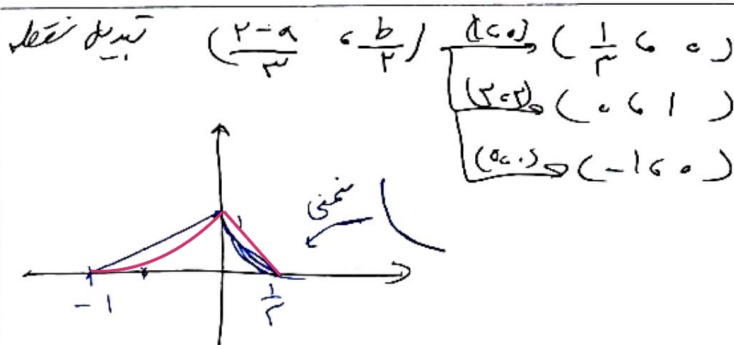
$$\rightarrow -1 \leq 5a+1 < 10$$

$$D_f = \left(-\frac{2}{5}, \frac{9}{5}\right]$$

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صفحه آخر

$$n_5 = \frac{y}{r(r-1)} - \frac{r}{r} \quad y_5 = -\frac{1}{r} \left(\frac{r}{r}\right)^2 + \frac{y}{r} \left(\frac{r}{r}\right) + 1 = \frac{r-1}{r}$$

$$V\left(\frac{r}{r} \mid \frac{r-1}{r}\right) \quad n_{5N} = r - \frac{r}{r} = \frac{r-1}{r} \quad y_{5N} = 1 - \frac{r-1}{r} = \frac{1}{r}$$

$$y=0 \rightarrow -\frac{1}{r}n^2 + \frac{r}{r}n + 1 = 0 \xrightarrow{\times 10} -10n^2 + 10n + 10 = 0 \quad n = \frac{1 \pm \sqrt{1+4}}{2}$$

انتخاب 1 و 2
در حد 0

$$\frac{r-1}{r}$$

صفحه آخر

$$(1, 1) \rightarrow 1 - 2f(rn+1) \quad \text{در این باره} = \left(\frac{r-1}{r} \mid 1-r\right)$$

$$\frac{1}{r} \rightarrow \alpha = \frac{1-r}{r} = \left(-\frac{1}{r}\right)$$

$$\beta = 1 - r(1) = (-1)$$

$$\left(-\frac{1}{r}\right)(-1) = \frac{1}{r}$$

$$f(n-1) \Rightarrow a \leq n-1 \leq b \Rightarrow a+1 \leq n \leq b \Rightarrow (a+1 \leq b)$$

$$g(n+1) \Rightarrow -1 \leq n+1 \leq b-1 \Rightarrow -2 \leq n \leq b-1 \Rightarrow (-2 \leq b-1)$$

$$\cap \rightarrow (-2 \leq b) \quad a+1 = -2 \rightarrow a = -3 \quad a-b = -2-4 = -6$$

$$b-1 = 0 \rightarrow b = 1 \quad a-b = -3-1 = -4$$

$$Dy = [-r \leq 0] \rightarrow -r \leq n+1 \leq 0 \Rightarrow -1 \leq n \leq -1 \quad Dy = [-1, 0]$$

$$f_y \rightarrow Rf = [-1 \leq 1] \rightarrow \text{برای } \sqrt{|f(n)-r|} \Rightarrow -1 \leq f(n) \leq 1$$

$$\xrightarrow{-r} -1 \leq f(n)-r \leq -1 \Rightarrow +1 \leq |f(n)-r| \leq 1 \xrightarrow{r} 1 \leq y \leq r$$

$$\Rightarrow D_{yn} = [-1, 1] \quad R_{yn} = [1, r]$$

$$r-1$$

صفحه آخر

$$0 \leq n + g(n) \quad / \quad g(n) = f(n-r) + 1 \Rightarrow g(n) = \left| \frac{(n-r)+1}{r(n-r)+1} \right| + 1$$

$$\Rightarrow g(n) = \left| \frac{n-1}{r(n-r)+1} \right| + 1 \quad n \neq r \quad / \quad 0 \leq n + \left| \frac{n-1}{r(n-r)+1} \right| + 1$$

$$0 > n \rightarrow \left| \frac{n-1}{r(n-r)+1} \right| + 1$$

$$n < -1 \rightarrow \left| \frac{n-1}{r(n-r)+1} \right| > n-1 \rightarrow \frac{(n-1)^2}{(r(n-r)+1)^2} > (n-1)^2$$

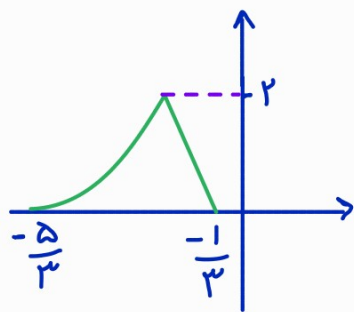
$$\rightarrow (n-1)^2 > (n-1)^2 (r(n-r)+1)^2 \rightarrow -1 < (n^2 - n - 1)(n-r) > 0$$

$$\rightarrow (n^2 - n - 1)(n-r) < 0 \quad \sum_{n=-\infty}^{\infty} \frac{n}{1+\sqrt{0.1}} \rightarrow \frac{(-1) \pm \sqrt{5}}{2}$$

$$\rightarrow [-1 \leq \frac{r}{r}] \cup (\frac{r}{r} \leq +\infty)$$

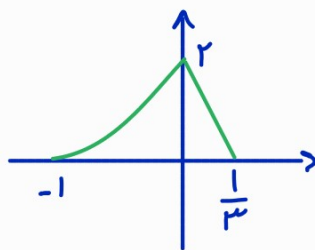
صفحه آخر

$$\Rightarrow (-1 \leq \frac{r}{r}) \cup (\frac{r}{r} \leq +\infty)$$



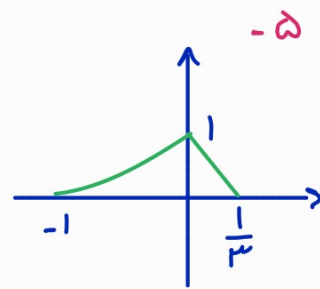
$$y = f(-3n)$$

واحد به راست $\frac{2}{3}$



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

$$y = f(2 - 3n)$$



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

رأس: (h, k) معادله خط $y = a(n-h)^2 + k = -\frac{1}{3}n^2 + \frac{2}{3}n + 1 \rightarrow a = -\frac{1}{3}$

رأس: $(4, 3) \rightarrow y = -\frac{1}{3}(n-4)^2 + 3 \xrightarrow{y=0} -\frac{1}{3}(n-4)^2 = -3 \rightarrow \begin{cases} n=7 \\ n=1 \end{cases}$

$$D_{y_1} = [-3, 5] \rightarrow -3 \leq n \leq 5 \rightarrow -\frac{1}{3} \leq \frac{n}{3} + 1 \leq \frac{5}{3} \Rightarrow D_f = [-\frac{1}{3}, \frac{5}{3}]$$

$$R_{y_1} = [-1, 2] \rightarrow -1 \leq f \leq 2 \rightarrow -5 \leq 2f - 3 \leq 1 \rightarrow 0 \leq |2f - 3| \leq 5$$

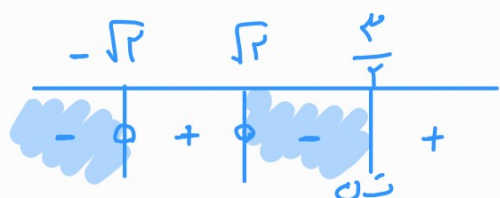
$$0 \leq \sqrt{|2f - 3|} \leq \sqrt{5} \Rightarrow R_f = [0, \sqrt{5}]$$

$$g(n) = \left| \frac{(n-2)+1}{2(n-2)+1} \right| + 1 = \left| \frac{n-1}{2n-3} \right| + 1$$

$$n + g(n) < 0 \rightarrow \left| \frac{n-1}{2n-3} \right| < -1-n$$

از به قدر مطلق بزرگتر شده پس باید مثبت باشد: $-1-n > 0 \rightarrow n < -1$

$$\xrightarrow{n < -1} \frac{n-1}{2n-3} < -1-n \rightarrow \frac{2n^2-4}{2n-3} < 0 \rightarrow \frac{2(n-\sqrt{2})(n+\sqrt{2})}{2n-3} < 0$$



$$\xrightarrow{n < -1} n < -\sqrt{2} \rightarrow (-\infty, -\sqrt{2})$$