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$$\frac{wx+y}{a} \Rightarrow \frac{ax-y}{3} \xrightarrow{\varepsilon} \frac{y-y}{3} = 0 \quad \xrightarrow{-y} \frac{-1-y}{3} = -\varepsilon \Rightarrow D_f = [-\varepsilon, \varepsilon]$$

1

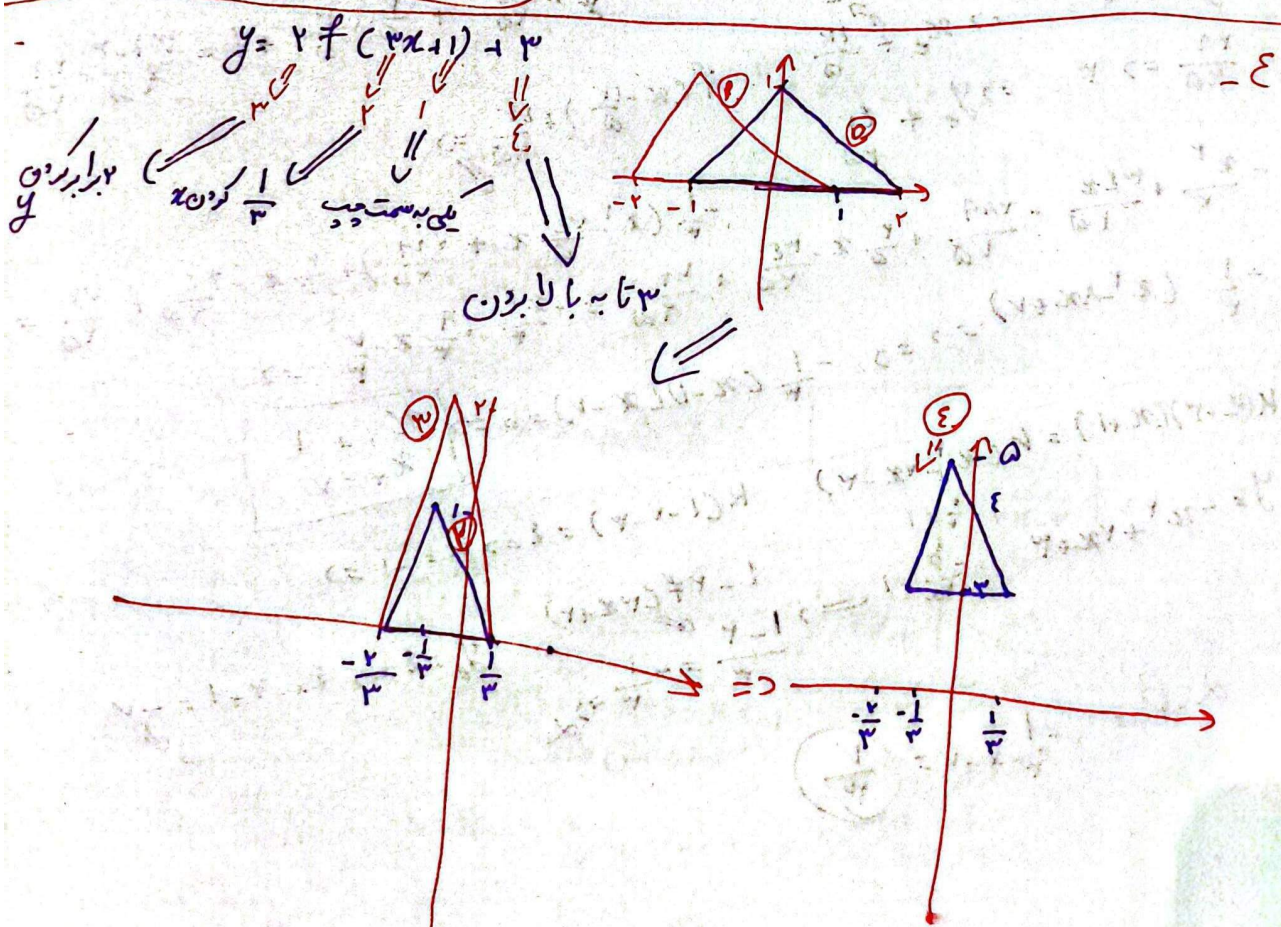
$$f(x) \xrightarrow{[-2, 2]} f(x) \Rightarrow \begin{aligned} -2 \times 3 - 2 &= -10 \\ 2 \times 3 - 2 &= 4 \end{aligned} \Rightarrow D_f = [-10, 4]$$

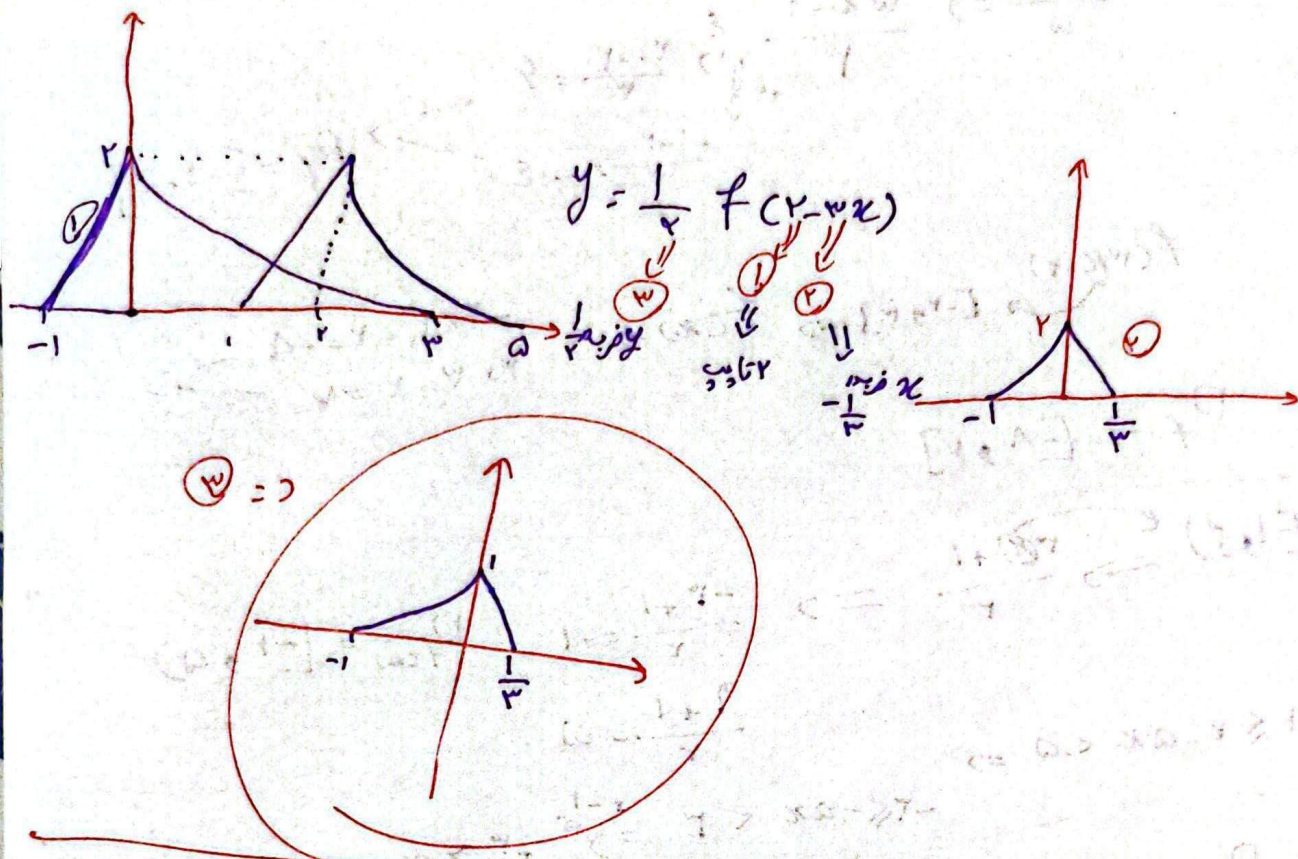
2

$$[-1, 2) \xrightarrow{x+1} \frac{x+1}{2} \Rightarrow \begin{aligned} \frac{-1+1}{2} &= 0 \\ \frac{2+1}{2} &= 1.5 \end{aligned} \Rightarrow D_{f \circ g} = [0, 1.5]$$

3

$$-1 \leq x - ax < 0 \Rightarrow -2 \leq -ax < 2 \Rightarrow \frac{2}{a} \geq x > -\frac{2}{a} \Rightarrow D_f = \left(-\frac{2}{a}, \frac{2}{a}\right]$$





- 9

$$x_e = -\frac{b}{r_a} = -\frac{-r}{\omega} = \frac{r}{\omega} \Rightarrow y_e = -\frac{1}{r} \cdot \frac{r}{\omega} + \frac{r}{\omega} \cdot \frac{r}{\omega} + 1 = \frac{r}{\omega} - \frac{r}{\omega} + 1 = 1$$

$$\frac{r}{\omega} \Rightarrow \varepsilon \Rightarrow x_e + \frac{1}{\omega} = \frac{r}{\omega} + \frac{1}{\omega} = \frac{r+1}{\omega}$$

$$\frac{r+1}{\omega} \Rightarrow w \Rightarrow y_e + \frac{\varepsilon r}{r\omega} = 1 + \frac{\varepsilon r}{r\omega} = 1 + \frac{\varepsilon}{\omega}$$

$$-\frac{x^r}{w} + \frac{w\varepsilon x}{1\omega} - \frac{r+1}{v\omega} + \frac{r}{\omega} x - \frac{w\varepsilon}{r\omega} + \frac{vr}{r\omega} = -\frac{x^r}{w} + \frac{1}{r} x - \frac{v}{w} \Rightarrow$$

$$-\frac{1}{w} (x^r - 1x + v) \Rightarrow -\frac{1}{w} (x-1)(x-v) = 0 \Rightarrow \boxed{x_1 = 1, x_2 = v}$$

$$K(x-r)(x+1) = K(x^r - vx - v) \quad K(1-r-v) = \varepsilon \Rightarrow K = -1 \Rightarrow$$

$$y = -x^r + vx + v \quad \frac{-b}{r_a} = 1 \Rightarrow \frac{1-r}{r} = -\frac{1}{r} \Rightarrow \alpha$$

$$y_e = \varepsilon \Rightarrow \varepsilon x - r + 1 = -v \quad B \Rightarrow$$

$$\alpha \cdot \beta = -\frac{1}{w} x - v = \left(\frac{v}{r} \right)$$

مجموعه مساوی است پس همان نیست

$$(a, \varepsilon]$$

$$a < x_{n+1} \leq \varepsilon \Rightarrow a_{n+1} < x \leq a$$

$$a_{n+1} = -2 \Rightarrow a = -3$$

$$[-1, b) \Rightarrow -1 \leq x_{n+1} < b \Rightarrow -2 \leq x < (b-1)$$

مجموعه مساوی است

$$b-1 = a \Rightarrow b = 2$$

$$a - b = -3 - 2 = -5$$

۹- نقطه‌ی صمیم

$$f(-\frac{3}{2} + 1) = 0 \Rightarrow f(-\frac{1}{2}) = 0 \Rightarrow 2f(-\frac{1}{2}) - 3 = -3$$

$$f(-\frac{1}{2} + 1) = 1 \Rightarrow f(\frac{1}{2}) = 1 \Rightarrow 2f(\frac{1}{2}) - 3 = -1$$

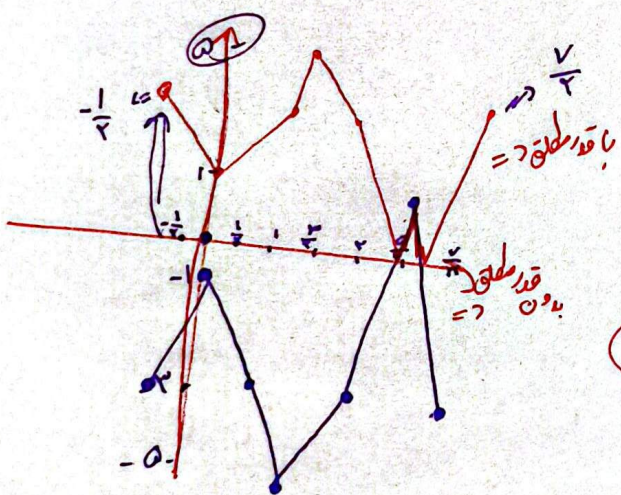
$$f(-\frac{1}{2} + 1) = 0 \Rightarrow f(\frac{1}{2}) = 0 \Rightarrow 2f(\frac{1}{2}) - 3 = -3$$

$$f(1) = -1 \Rightarrow 2f(1) - 3 = -5$$

$$f(\frac{3}{2}) = 0 \Rightarrow 2f(\frac{3}{2}) - 3 = -3$$

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

$$f(\frac{3}{2}) = 0 \Rightarrow 2f(\frac{3}{2}) - 3 = -3$$



$$D_f = [-\frac{1}{2}, \frac{3}{2}]$$

$$R_f = \sqrt{[0, 5]} \Rightarrow$$

$$R_f = [0, \sqrt{5}]$$

۱۰- $x-2 \Rightarrow x-2$
یک واحد به بالا $\Rightarrow +1$

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

$$x + g(x) < 0 \Rightarrow x + 1 + \left| \frac{x-1}{2x-1} \right| < 0 \Rightarrow \left| \frac{x-1}{2x-1} \right| < -x-1$$

$$-1-x > 0 \Rightarrow x < -1$$

$$\Rightarrow \frac{x-1}{2x-1} < -1-x \Rightarrow \frac{x-1}{2x-1} + 1 + x < 0 \Rightarrow \frac{x^2-2x-1}{2x-1} < 0$$

$$(-\infty, -\sqrt{2})$$