

$$-2 \leq x \leq 2 \rightarrow -2 \leq \frac{x+2}{\infty} \leq 2 \rightarrow -1 \leq x+2 \leq 2 \rightarrow -3 \leq x \leq 1$$

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

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$$\begin{aligned} -2 &\rightarrow x-2 \quad x-2 = -4-2 = -6 \rightarrow D f(x) = [-6, 6] \\ 2 &\rightarrow x-2 \quad x-2 = 9-2 = 7 \end{aligned}$$

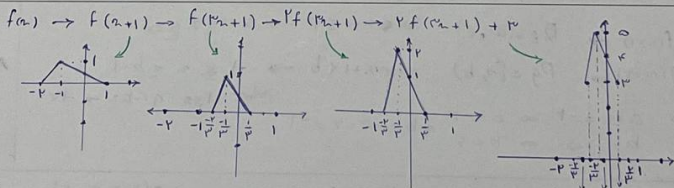
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$$\begin{aligned} -1 &\rightarrow \frac{-x+1}{x} = -1 \rightarrow D f(x) = [-1, \infty) \\ 2 &\rightarrow \frac{x+1}{x} = 2 \end{aligned}$$

$$D f(x) = \begin{cases} -1 \leq x-2 < \infty \\ \omega x \leq 2 & x \leq \frac{2}{\omega} \\ \omega x > -2 & x > -\frac{2}{\omega} \end{cases}$$

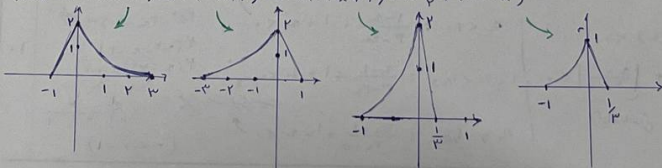
$$D f(x-2) = \left[-\frac{2}{\omega}, \frac{2}{\omega}\right]$$

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



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$$y = \frac{1}{v} x^v + \frac{v}{v} x + 1 \leadsto y' = \frac{1}{v} (x - \frac{1}{v})^v + \frac{v}{v} (x - \frac{1}{v}) + 1 + \frac{v}{v} = \frac{1}{v} x^v + x + 1$$

$$\frac{-b}{1a} = \frac{-\frac{v}{v}}{\frac{1}{v}} = \frac{v}{v}$$

$$\frac{1}{v} x^v + x + 1 = 0 \quad x = \frac{-1 \pm \sqrt{1 + \frac{v}{v}}}{\frac{1}{v}}$$

$$x = \frac{v}{v} \rightarrow y = \frac{v}{v}$$

$$y' = \left(\frac{1}{v} (x)^v + \frac{v}{v} x' + 1 \right) + b$$

$$\frac{v}{v} + b = \frac{v}{v}$$

$$v + a = \frac{v}{v} \rightarrow a = \frac{1}{v}$$

$$v + b = \frac{v}{v} \rightarrow b = \frac{v}{v}$$

$$1 - 2f(v + 1)$$

$$f(x) = f(x + 1) \rightarrow f(x + 1) = f(x)$$

$$f(x) = f(x) : \left| \frac{1}{v} \right| \Rightarrow f(1) = v$$

$$v + 1 = 1 \Rightarrow x = \frac{1}{v} = x$$

$$1 - 2 \frac{f(1)}{v} = v(-v) + 1 \Rightarrow y = -v = \beta \Rightarrow \alpha \cdot \beta = \frac{1}{v} \cdot -v = \frac{v}{v}$$

$$\frac{-v}{v} \rightarrow \frac{-v}{v} + 1 = \frac{1}{v}$$

$$\Rightarrow Df(x) = \left[\frac{1}{v}, \frac{v}{v} \right]$$

$$\frac{v}{v} \rightarrow \frac{v}{v} + 1 = \frac{v}{v}$$

$$min = -1 \quad |v(-1) - v| = |1 - v| = v$$

$$max = v \quad |v(v) - v| = |v| = v$$

$$x = \frac{1}{v} \Rightarrow y = 1$$

$$x = v \Rightarrow y = v$$

$$\Rightarrow D_{y,v} = \left[\frac{1}{v}, \frac{v}{v} \right], R_{y,v} = [0, v]$$

$$(-v, v) = Df(x_{n-1}) \cap Dg(x_{n+1})$$

$$Df(x_{n-1}) \rightarrow Df = (a, v] \quad a \leq x_{n-1} \leq v \rightarrow a + 1 \leq 2 \leq v$$

$$Dg(x_{n+1}) \rightarrow Dg = [-1, b) \quad -1 \leq x_{n+1} < b \rightarrow -v \leq x \leq b - 1$$

$$\Rightarrow a + 1 = -v \Rightarrow a = -v$$

$$b - 1 = v \Rightarrow b = v$$

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

$$x + g(x) < 0$$

$$x + 1 + \left| \frac{x-1}{x-1} \right| < 0$$

برای بررسی

$$x < 1 : \frac{1-x}{x-1} + 1 + x < 0$$

$$1 < x < v : \frac{x-1}{x-1} + 1 + x < 0$$

$$x > v : \frac{x-1}{x-1} + 1 + x < 0$$

$$\frac{-(x^2 - x - 1)}{x - 1} < 0$$

$$x^2 - x - 1 > 0$$

$$x(x - 1) - 1 > 0$$

$$x(x - 1) - 1 > 0$$

$$\frac{-1}{x-1} < 0$$

$$(-\infty, -1)$$

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