

$$-2 \leq x \leq 4 \rightarrow -2 \leq \frac{x+2}{2} \leq 4 \rightarrow -4 \leq x \leq 4$$

$$\rightarrow D_f = [-4, 4]$$

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$$-2 \leq x \leq 7 \rightarrow -1 \leq x-5 \leq 7$$

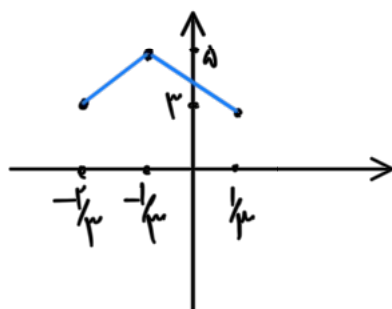
$$\rightarrow D_f = [-1, 7]$$

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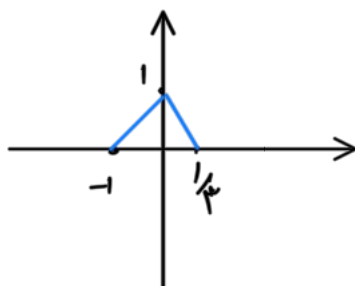
$$-1 \leq x \leq 3 \rightarrow -1 \leq \frac{x+1}{2} \leq 2 \rightarrow -1 \leq 1-x \leq 2$$

$$-\frac{3}{2} \leq x \leq \frac{3}{2} \rightarrow D_f = [-\frac{3}{2}, \frac{3}{2}]$$

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$$x_{\min} = \frac{-b}{2a} = 0,4 \rightarrow y_{\min} = \frac{11}{20}$$

$$A: (x, y) \rightarrow y = -\frac{1}{4}(x-1)^2 + 1 \rightarrow y \geq 0 \rightarrow x-1 \leq \pm 2$$

$$\rightarrow x \leq \frac{1}{2} \rightarrow x-1 \leq -\frac{1}{2} \quad (4)$$

$$(1, 1) \xrightarrow{x+1} (-1, 1) \xrightarrow{\frac{1}{x}} \left(-\frac{1}{x}, 1\right) \xrightarrow{-xy} \left(-\frac{1}{x}, -1\right) \xrightarrow{y+1} \left(-\frac{1}{x}, -V\right)$$

$$\rightarrow A(\alpha, \beta) = \left(-\frac{1}{\alpha}, -V\right) \rightarrow \alpha\beta = \frac{V}{\alpha}$$

$$D_{f(x)} = (a+1, a]$$

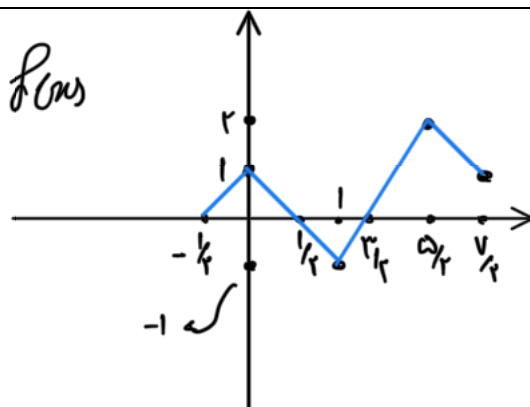
$$D_{g(x)} = [-1, b-1]$$

$$\rightarrow D_{f(x)} \cap D_{g(x)} = (-1, a]$$

$$\rightarrow \begin{cases} a+1 \leq -1 \\ b-1 \leq a \end{cases} \Rightarrow a-b \leq -2$$

$$D_y = \left[-\frac{1}{4}, \frac{\sqrt{5}}{4}\right]$$

$$\begin{cases} y_{\min} = 0 \\ y_{\max} = \sqrt{5} \end{cases} \Rightarrow R_y = [0, \sqrt{5}]$$



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

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

$$\rightarrow x^2 - 1 > 0 \rightarrow x^2 > 1 \rightarrow x < -1 \cup x > 1$$

$$\rightarrow \wedge x < -1 \rightarrow D_g = (-\infty, -1)$$