

$$\frac{x+2}{3} \in D_{f(x)} \Rightarrow -2 \leq \frac{x+2}{3} \leq 4 \rightarrow -10 \leq x+2 \leq 12$$

$$\rightarrow -12 \leq x \leq 10$$

$$\rightarrow -4 \leq x \leq 4 \rightarrow D = [-4, 4]$$

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$$x \in [-2, 2] \rightarrow -2 \leq x \leq 2 \rightarrow -4 \leq 2x \leq 4 \rightarrow -1 \leq x-2 \leq 7$$

$$\rightarrow D_{f(x)} = [-1, 7]$$

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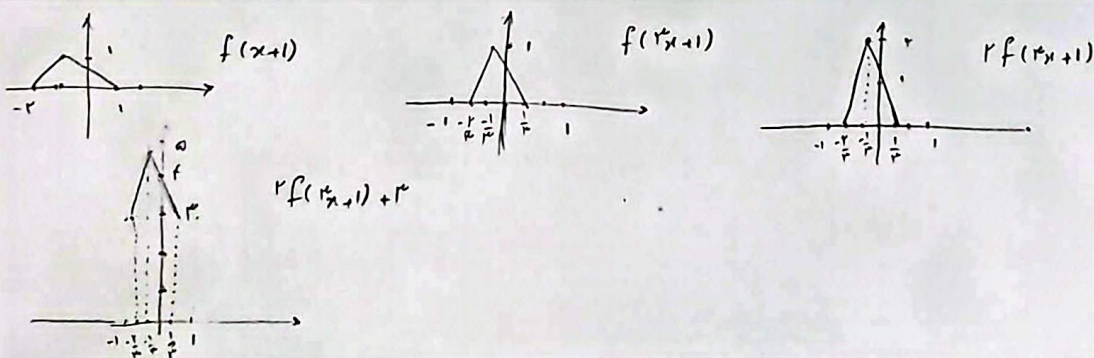
$$x \in [-1, 2) \rightarrow -1 \leq x < 2 \rightarrow -2 \leq x+1 < 3 \rightarrow -2 \leq x+1 < 1$$

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

$$\rightarrow D_{f(x)} = [-1, 0) \rightarrow 2-5x \in D_{f(x)}$$

$$\rightarrow -1 \leq 2-5x < 0 \rightarrow -3 \leq -5x < 2 \rightarrow -\frac{3}{5} \leq x < \frac{2}{5} \rightarrow D_{f(2-5x)} = \left(-\frac{3}{5}, \frac{2}{5}\right]$$

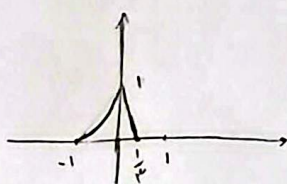
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$$D_{f(x)} = [1, \infty] \rightarrow D_{f(2-x)} : 1 \leq 2-x \leq \infty \rightarrow -1 \leq -x \leq \infty \rightarrow -1 \leq x \leq \frac{1}{2}$$

$$\rightarrow D_{f(2-x)} = [-1, \frac{1}{2}] , R_{f(2-x)} = \left[\frac{0}{2}, \frac{1}{2}\right] = [0, 1]$$



$$2-x=2 \rightarrow x=0 \rightarrow x=0$$

$$\frac{1}{2} = 1 \rightarrow A \left| \begin{matrix} 0 \\ 1 \end{matrix} \right.$$

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$$x^y : \frac{-1}{-r} = \frac{r}{a} \rightarrow -\frac{1}{r} \left(\frac{a}{r_0} \right) + \frac{r}{a} \left(\frac{r}{a} \right) + 1 = \frac{-r + r}{r_0} + 1 = \frac{r + r_0}{r_0} = \frac{r_1}{r_0}$$

$$x \in \left| \frac{r_1}{r_0} \right| \rightarrow r - \frac{r}{a} = \frac{r}{a} \rightarrow \dots, \quad r - \frac{r_1}{r_0} = \frac{r_0 - r_1}{r_0} = \frac{r_2}{r_0}$$

$$y = -\frac{1}{r} \left(x - \frac{r_1}{a} \right) + \frac{r}{a} \left(x - \frac{r_1}{a} \right) + 1 + \frac{r_2}{r_0} \rightarrow -\frac{1}{r} \left(x - \frac{r_1}{a} \right) + \frac{r}{a} \left(x - \frac{r_1}{a} \right) + \frac{r_2}{r_0} = 0 \rightarrow \Delta = \frac{r}{r_0} + \frac{r_2}{r_0} = \frac{r + r_2}{r_0} = \frac{r_3}{r_0}$$

$$\rightarrow c = \frac{r_1 \pm r}{\frac{r}{a}} = \frac{r_1}{a} \pm r = x - \frac{r_1}{a} \rightarrow x = \frac{r_1}{a} + r = r_1, \quad x = \frac{r_1}{a} - r = 1$$

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$$f \text{ دالة } : A' \Big|_K \rightarrow r_x + r = 1 \rightarrow r_x = -1 \rightarrow n = -\frac{1}{r} = \alpha$$

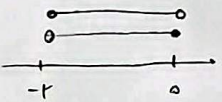
$$y_A = \beta = 1 - r f(1) = 1 - 1 = -r$$

$$\rightarrow \alpha \beta = \frac{r}{r}$$

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$$x-1 \in D_f \Rightarrow a < x-1 \leq \epsilon \rightarrow a+1 < x \leq a \rightarrow D_{f(x-1)} = (a+1, a]$$

$$x+1 \in D_g \Rightarrow -1 \leq x+1 < b \rightarrow -r \leq x < b-1 \rightarrow D_{g(x+1)} = [-r, b-1)$$

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


$$\Rightarrow b-1 = a \rightarrow b = a+1$$

$$a+1 = -r \rightarrow a = -r-1$$

$$a-b = -r-1 - (-r-1) = -1$$

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$$x \in [-r, a] \Rightarrow -r \leq x \leq a \rightarrow -\frac{r}{r} \leq \frac{x}{r} \leq \frac{a}{r} \rightarrow -1 \leq \frac{x}{r} + 1 \leq \frac{a}{r}$$

$$\rightarrow D_{f(x)} = \left[-\frac{1}{r}, \frac{a}{r} \right] \rightarrow |r f(x) - r| \geq 0 \rightarrow \text{مجال } f(x) \text{ قابل}$$

$$\rightarrow D_{g_r} = \left[-\frac{1}{r}, \frac{a}{r} \right], \quad R_f = R_{g_1} = [-1, r] \rightarrow -1 \leq f(x) \leq r \rightarrow -r \leq r f(x) \leq \epsilon$$

$$\rightarrow -a \leq r f(x) - r \leq 1 \rightarrow 0 \leq |r f(x) - r| \leq a \rightarrow R_{g_r} = \sqrt{[0, a]} = [0, \sqrt{a}]$$

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

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

$$\frac{x-1}{r_{x-r}} - (x+1) > 0 \rightarrow \frac{x-1 - (r_{x-r} - r - x)}{r_{x-r}} > 0 \rightarrow \frac{r(x-r-1)}{r_{x-r}} < 0 \rightarrow \frac{1-\sqrt{a}}{r} + \frac{r}{r} - \frac{1+\sqrt{a}}{r}$$

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

$$\rightarrow x \in (-\infty, -\sqrt{r})$$

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