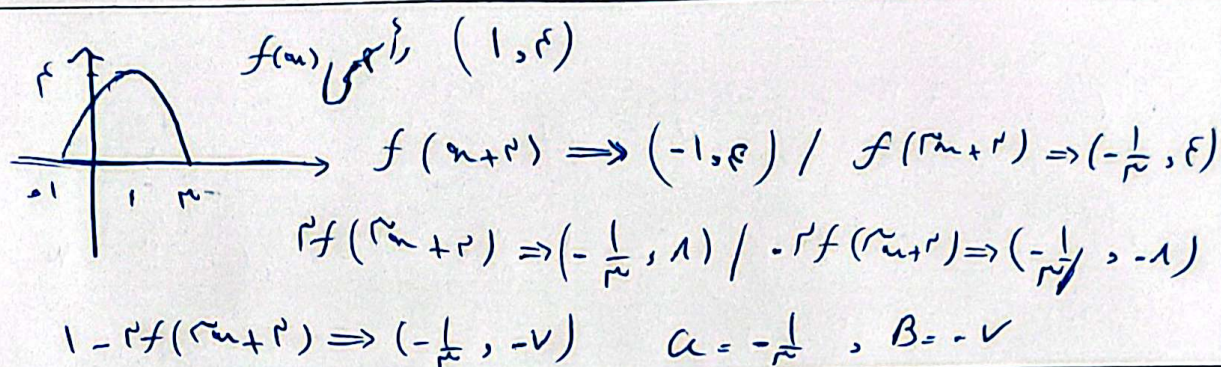


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$$n - \sqrt{2n} \Rightarrow n - \sqrt{2(n+1)} \Rightarrow -n + \sqrt{2n+2} \Rightarrow n + \sqrt{2n+2}$$

$$n + \sqrt{2n+2} = \frac{1}{n} \Rightarrow \sqrt{2n+2} = \frac{1}{n} \Rightarrow 2n+2 = \frac{1}{n^2} \Rightarrow 2n^3 + 2n^2 = 1 \Rightarrow n = \frac{1}{2}$$

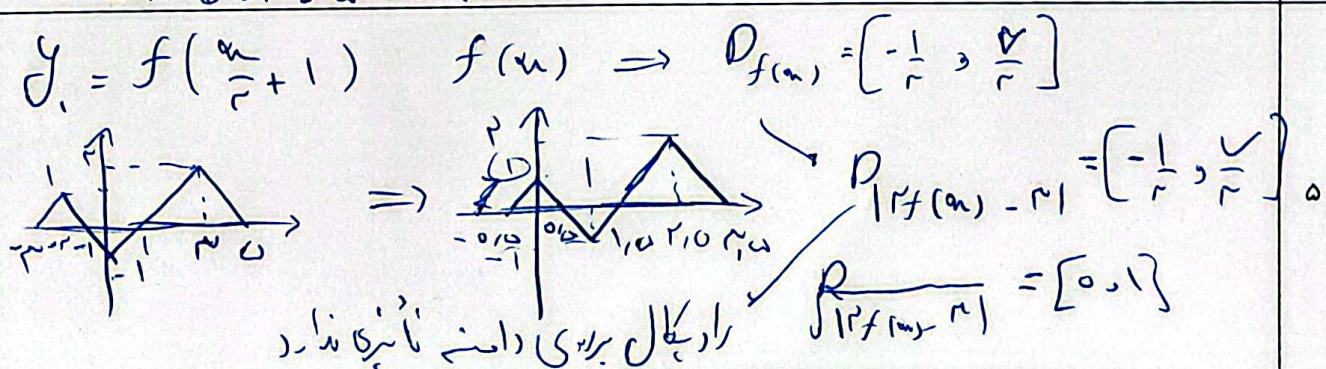
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$$D_{f(n)} = (a, c] \Rightarrow D_{f(n-1)} = (a+1, c] \quad \left. \vphantom{D_{f(n)}} \right\} n \Rightarrow (-2, c)$$

$$D_{g(n)} = [-1, b) \Rightarrow D_{g(n+1)} = [-2, b-1)$$

$$\begin{aligned} \rightarrow a+1 &= -2 \rightarrow a = -3 & a-b &= -3-6 = -9 \\ \rightarrow b-1 &= a \rightarrow b = 6 \end{aligned}$$

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$$f(x) = \log_2 x \xrightarrow{\text{تبدیل به لگاریتم}} \log_2 x = \frac{\log_{10} x}{\log_{10} 2} \xrightarrow{\text{تبدیل به لگاریتم}} -\log_2 x = \frac{\log_{10} x}{\log_{10} 2}$$

$$-\log_2 x + 1 \xrightarrow{\text{تبدیل به لگاریتم}} g(x) = \log_2 -x + 1 \quad g(-1) + g(-4) = (-1) + (-2) = -3$$

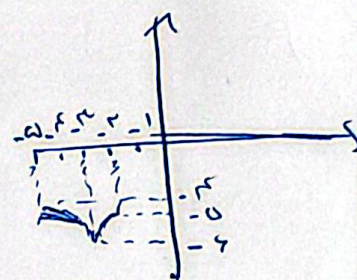
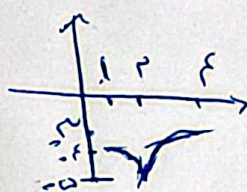
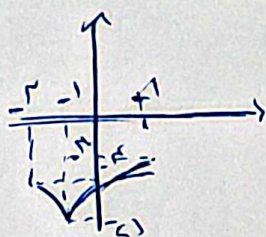
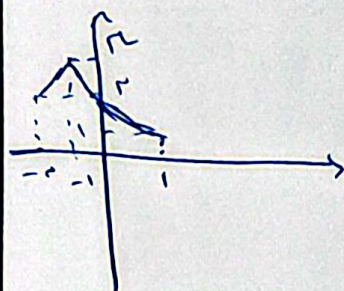
$$g(-1) = -\log_2 1 + 1 = -1 \quad g(-4) = -\log_2 4 + 1 = -2$$

$$f(x-1)$$

$$f(x-1)$$

$$f(-x)$$

$$f(x-1) - 1$$



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

$$\Rightarrow g(x) = \left| \frac{x-1}{x-1} \right| + 1 \quad x+1 + \left| \frac{x-1}{x-1} \right| \leq 0 \rightarrow (-\infty, -1)$$