

$$-2 \leq \frac{r_{n+2}}{5} \leq 4 \rightarrow -10 \leq r_{n+2} \leq 20 \rightarrow -2 \leq r_n \leq 10$$

$$-2 \leq r_n \leq 10$$

$$Df\left(\frac{r_{n+2}}{5}\right) = [-2, 10]$$

1

$$-2 \leq r_n \leq 10 \rightarrow -6 \leq r_{n+1} \leq 14 \rightarrow -8 \leq r_{n+2} \leq 16$$

$$Df(r_{n+1}) = [-8, 16]$$

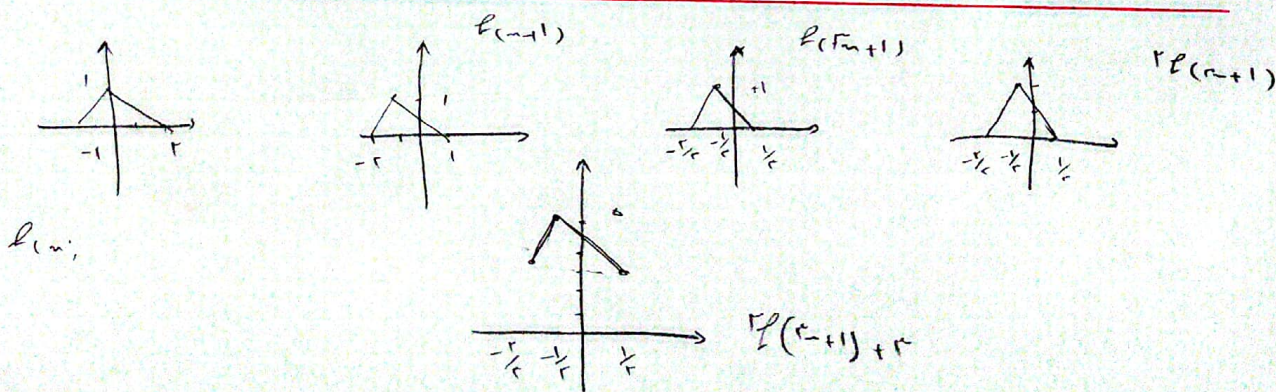
2

$$-1 \leq r_n \leq 10 \rightarrow -5 \leq r_{n+1} \leq 15 \rightarrow -2 \leq r_{n+2} \leq 12 \rightarrow -1 \leq \frac{r_{n+2}}{5} \leq 2$$

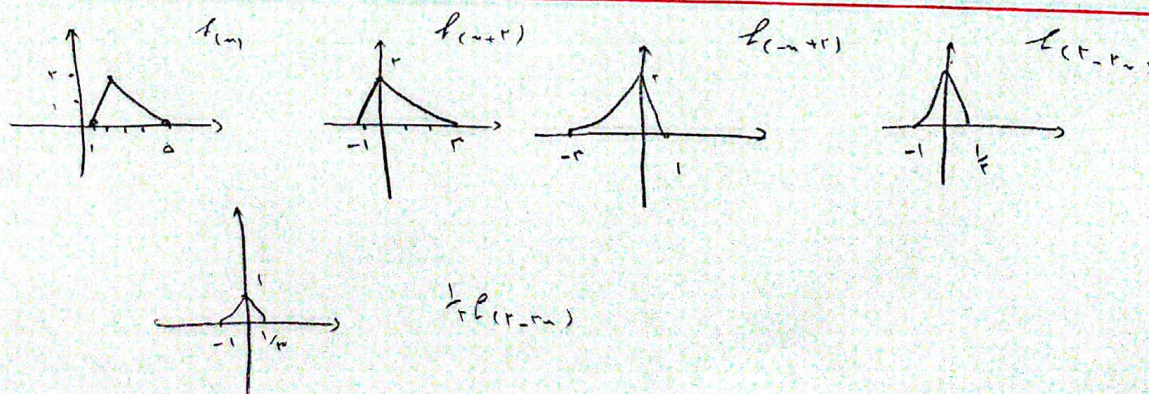
$$-1 \leq 2 - 5r_n \leq 2 \rightarrow -2 \leq -5r_n \leq 4 \rightarrow \frac{r_n}{5} \geq r_n > -\frac{r_n}{5}$$

$$Df(r_{n+2}) = \left(-\frac{r_n}{5}, \frac{r_n}{5}\right]$$

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$$y = \frac{1}{r} x^r + \frac{r}{a} x + 1 \rightarrow \text{let } \begin{cases} \frac{-b}{1a} = \frac{\frac{-r}{-1/r}}{\frac{-1}{-1/r}} = \frac{r}{a} \\ \frac{-1/r}{-1/r} + \frac{r}{a} \times \frac{r}{a} + 1 = \frac{r}{a} \end{cases}$$

$$y' = -\frac{1}{r} (n-x)^{r-1} + r \rightarrow y' = 0 \rightarrow 0 = -\frac{1}{r} (n-x)^{r-1} + r = \frac{1}{r} (n-x)^{r-1} : r$$

$$(n-x)^{r-1} = r \rightarrow n-x = r^{\frac{1}{r-1}} \Rightarrow \boxed{n = V}$$

$$n-x = -r \Rightarrow \boxed{n = 1}$$

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$$\text{let } \varepsilon = (1/r) \rightarrow y = 1 - r \ell(n+r) \rightarrow r-n-r = 1 \rightarrow n = -\frac{1}{r} = \alpha$$

$$\hookrightarrow n = -\frac{1}{r} \rightarrow y = 1 - r \ell(n) : 1 - r \times \varepsilon = -V = B$$

$$\alpha B = -\frac{1}{r} \times -V = \frac{V}{r}$$

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$$\ell : a < n-1 \leq \varepsilon \rightarrow a+1 < n \leq d \quad \left. \vphantom{\begin{matrix} a < n-1 \leq \varepsilon \\ a+1 < n \leq d \end{matrix}} \right\} (-r, \varepsilon)$$

$$g : -1 \leq n+1 < b \rightarrow -r \leq n < b-1$$

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

$$b-1 = \varepsilon \rightarrow b = \varepsilon$$

$$a-b = -r - \varepsilon = -q$$

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$$g_r = \sqrt{|r \ell(n) - r|} \quad D_{g_r} : D_{g_r} \quad g_1 = \ell\left(\frac{n}{r} + 1\right)$$

$$-r \leq n \leq d \rightarrow -\frac{r}{r} \leq \frac{n}{r} \leq \frac{d}{r} \rightarrow -\frac{1}{r} \leq \frac{n}{r} + 1 \leq \frac{V}{r} \rightarrow D_{g_r} : \left[-\frac{1}{r}, \frac{V}{r}\right]$$

$$R_{g_1} = [-1, r] \rightarrow -1 \leq \ell(n) \leq r \rightarrow -r \leq r \ell(n) \leq r \rightarrow -q \leq r \ell(n) - r \leq 1$$

$$0 \leq |r \ell(n) - r| \leq d \rightarrow 0 \leq \sqrt{|r \ell(n) - r|} \leq \sqrt{d} \rightarrow R_{g_r} : [0, \sqrt{d}]$$

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$$g(n) = \left| \frac{(n-1)+1}{r(n-r)+1} \right| + 1 \rightarrow \left| \frac{n-1}{r(n-r)} \right| + 1 \quad n + \left| \frac{n-1}{r(n-r)} \right| < \infty$$

$$1 \leq n \leq \frac{r}{r} \rightarrow n + \frac{n}{r(n-r)} + 1 < \infty \quad \left. \vphantom{\begin{matrix} n + \frac{n}{r(n-r)} + 1 < \infty \\ n + \frac{n-1}{r(n-r)} + 1 < \infty \end{matrix}} \right\} (-\infty, -\sqrt{r})$$

$$n \geq \frac{r}{r} \rightarrow n + \frac{n-1}{r(n-r)} + 1 < \infty \rightarrow \frac{r(n-r)-1}{r(n-r)} < \infty \Rightarrow \frac{-\sqrt{r} + \sqrt{r}}{r(n-r)} < \infty$$

$$n < 1 \rightarrow n + \frac{n-1}{r(n-r)} + 1 < \infty \rightarrow \frac{r(n-r)-2}{r(n-r)} < \infty \Rightarrow \frac{-\sqrt{r} + \sqrt{r}}{r(n-r)} < \infty$$

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