

$$f(n) \Rightarrow D_f = [-2, 4] \Rightarrow -2 \leq n \leq 4$$

$$f\left(\frac{r(n+r)}{\omega}\right) \Rightarrow -2 \leq \frac{r(n+r)}{\omega} \leq 4 \xrightarrow{\times \omega} -1 \leq r(n+r) \leq 4r \xrightarrow{-r} -1-r \leq rn \leq 4r-r$$

$$-4 \leq n \leq 4 \Rightarrow \left\{ D_{f\left(\frac{r(n+r)}{\omega}\right)} : [-4, 4] \right\}$$

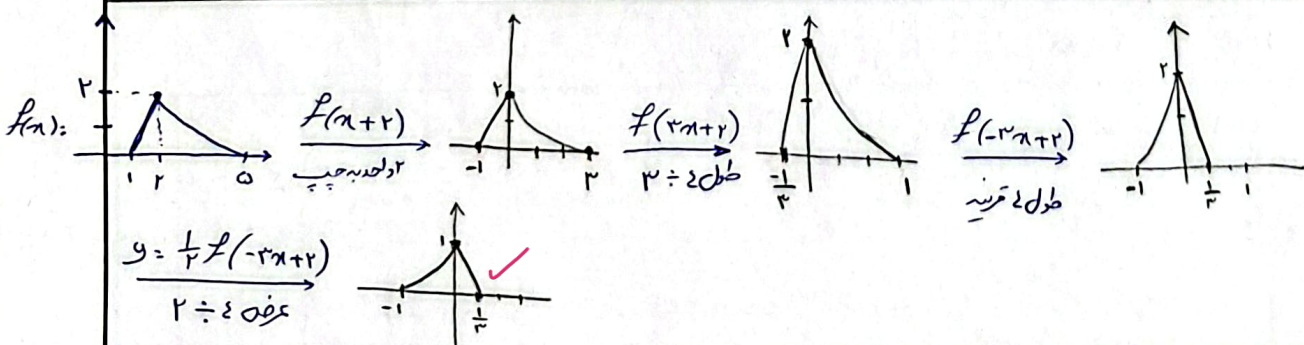
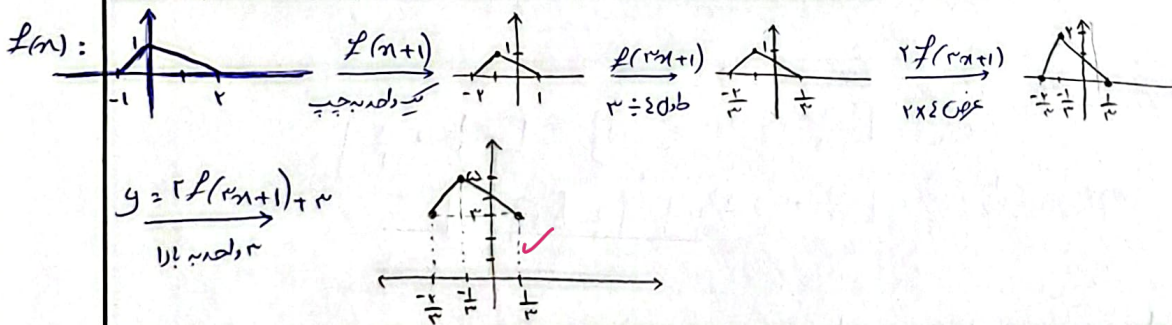
$$f(r(n-r)) \Rightarrow D = [-2, 2] \quad \begin{cases} (-2) \Rightarrow \frac{r(-2)}{r} - r = -4 \\ (2) \Rightarrow \frac{r(2)}{r} - r = 0 \end{cases}$$

$$f(n) \Rightarrow D_f : [-4, 0]$$

$$f\left(\frac{r(n+1)}{r}\right) \Rightarrow D = [-1, 2] \quad \begin{cases} (-1) \Rightarrow \frac{r(-1)+1}{r} = -1 \\ (2) \Rightarrow \frac{r(2)+1}{r} = 2 \end{cases} \quad f(n) \Rightarrow D = [-1, 2]$$

$$f(r-\omega n) \Rightarrow -1 \leq r-\omega n \leq 2 \xrightarrow{-r} -1-r \leq -\omega n \leq 2-r \xrightarrow{\div -\omega} \frac{r-2}{\omega} \geq n \geq \frac{r+1}{\omega}$$

$$\frac{r}{\omega} \geq n \geq \frac{r+1}{\omega} \sim D_{f(r-\omega n)} = \left[\frac{r}{\omega}, \frac{r+1}{\omega} \right]$$



$$f_{\text{new}}^{(1)} : (1, r)$$

$$y = f(n)$$

$$\rightarrow f(1) = r$$

$$f_{\text{new}}^{(2)} : (\alpha, \beta)$$

$$y = 1 - r f(rn+r)$$

دالة

$$\rightarrow \alpha: rn+r=1 \quad \beta: y = 1 - r f(r)$$

$$n=1 \xrightarrow{\frac{rn}{rn+r}} -1 \xrightarrow{\frac{rn}{rn+r}} -\frac{1}{r} = \alpha$$

$$y=r \xrightarrow{\frac{-rf}{x(r)}} -1 \xrightarrow{\frac{-rf+1}{r+1}} -v = \beta$$

$$n = -\frac{1}{r}$$

$$\alpha = -\frac{1}{r}$$

$$\Rightarrow \{\alpha, \beta\} = \left\{-\frac{1}{r}, -v\right\}$$

جواب

$$y = f(n-1) + g(n+1) \quad D: (-r, a) = D_{f(n-1)} \cap D_{g(n+1)}$$

$$D_f: (-r) \xrightarrow{f(n-1)} (-r)-1 = -r, (a) \xrightarrow{f(n-1)} (a)-1 = r \quad \left\{ \begin{array}{l} D_f: (a, r] \\ D_f: (-r, r) \end{array} \right.$$

$$D_g: (-r) \xrightarrow{g(n+1)} (-r)+1 = -1, (a) \xrightarrow{g(n+1)} a+1 = 4 \quad \left\{ \begin{array}{l} D_g: [-1, b) \rightarrow a = -1 \\ D_g: (-1, 4) \rightarrow b = 4 \end{array} \right.$$

$$a-b = -r-4 = -9$$

$$y = \frac{1}{r} n^r + \frac{r}{a} n+1 \quad f_{\text{new}}^{(3)}: (r, r)$$

$$\left\{ \begin{array}{l} \frac{1}{ra} n = \frac{-r}{a} = \frac{r}{a} \rightarrow r \\ y = \frac{1}{r} \left(\frac{r}{a} \right) + \frac{r}{a} \left(\frac{r}{a} \right) + \frac{r}{a} = \frac{r}{a} + \frac{r}{a} + \frac{r}{a} = \frac{3r}{a} \end{array} \right.$$

$$y' = \frac{1}{r} (n - \frac{1}{a})^r + \frac{r}{a} (n - \frac{1}{a}) + 1 + \frac{r}{a} \frac{1}{a}$$

$$\frac{n^r - 1}{r} + \frac{1}{a} = \frac{r}{a} \rightarrow \frac{n^r - 1}{r} = \frac{r}{a} - \frac{1}{a} = \frac{r-1}{a}$$

$$D_{y_1} = [-r, a] \xrightarrow{y_1 = f(\frac{n}{r}+1)} D_{f(n)}: \left[\left(\frac{-r}{r} + 1 \right), \left(\frac{a}{r} + 1 \right) \right] = \left[\frac{1}{r}, \frac{v}{r} \right]$$

$$R_{y_1} = [-1, r] \rightarrow R_{f(n)}: [-1, r], \xrightarrow{r \neq r} [-a, 1] \xrightarrow{1 \neq r} [c, a]$$

$$y_r = \sqrt{|rf(n) - r|} \geq 0 \rightarrow |rf(n) - r| \geq 0 \rightarrow D_{y_r} = D_f: \left[-\frac{1}{r}, \frac{v}{r} \right]$$

$$\rightarrow 0 \leq |rf(n) - r| \leq a \rightarrow R_{y_r} = [0, \sqrt{a}]$$

$$f(n) = \left| \frac{n+1}{rn+1} \right| \xrightarrow{\text{دالة جديدة}} \left| \frac{(n-r)+1}{r(n-r)+1} \right| = \left| \frac{n-1}{rn-r} \right| \xrightarrow{\text{دالة جديدة}} \left| \frac{n-1}{rn-r} \right| + 1$$

$$n+g(n) < 0 \Rightarrow \frac{n-1}{rn-r} < -n$$

$$n \rightarrow y = -\frac{1}{r}, \frac{1}{r}$$

$$y \rightarrow n=1$$

$$n \neq \frac{r}{r}$$

$$y \neq r$$

$$ad-bc < 0$$

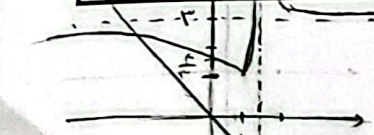
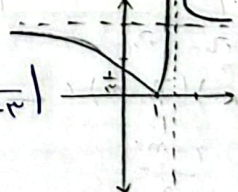
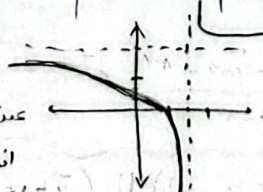
$$\left| \frac{n-1}{rn-r} \right| + 1 = -n$$

$$\left| \frac{n-1}{rn-r} \right| + 1 < -n$$

$$\Rightarrow$$

$$\frac{n-1}{rn-r} + \frac{rn-r}{rn-r} = -n \rightarrow \frac{rn-1}{rn-r} = -n \rightarrow rn-1 = -n(rn-r) \rightarrow rn-1 = -rn^2+rn \rightarrow rn^2-rn-1=0$$

$$n = \left\{ \frac{\sqrt{r^2+4}}{2r}, \frac{-\sqrt{r^2+4}}{2r} \right\} \rightarrow n = (-\infty, -\sqrt{r})$$



$$D_x \cap D_y = (r, a)$$

$$D_{f(n)} : (a, f] \rightarrow a \leq n \leq f \xrightarrow{f(n-1)} a \leq n-1 \leq f$$

: Prob (N) d'x

$$\text{a+1} \leq n \leq f$$

$$D_{g(n)} : [-1, b) \rightarrow -1 \leq n < b \xrightarrow{g(n+1)} -1 \leq n+1 < b$$

$$-1 \leq n < b-1$$

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

$$a-b \leq -r-q \leq -q$$

حساب