

یارا جانتی - دوادم پسر آ تلف ۱۷,۵

$$\Rightarrow -\frac{r}{d}(\frac{rn+r}{d}) \leq \frac{1r}{d} \Rightarrow D_{f(\frac{rn+r}{d})} = [-\frac{r}{d}, \frac{1r}{d}]$$

صفحه آخر

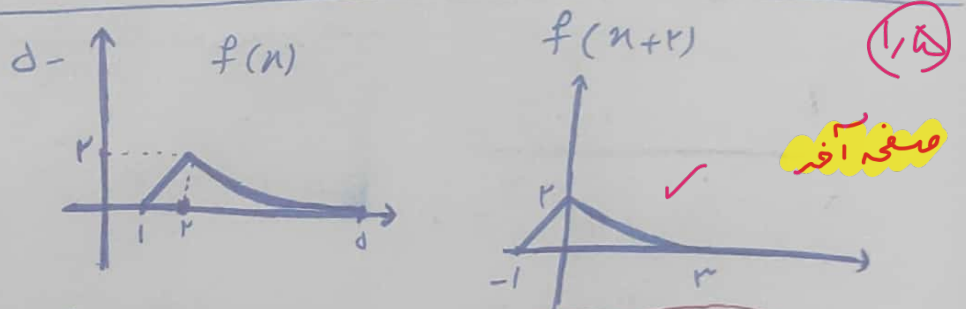
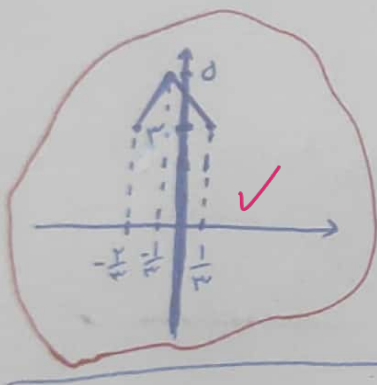
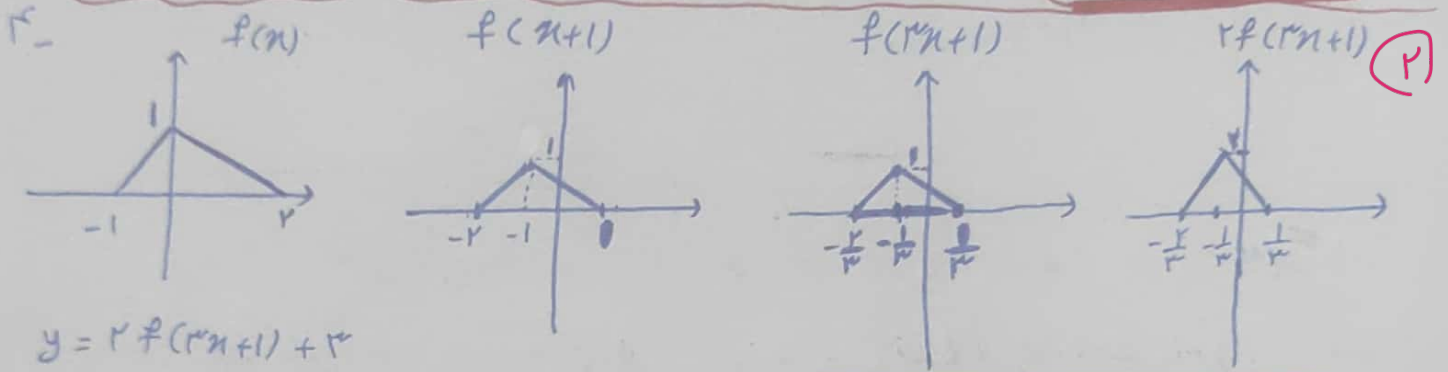
$$r- -r \leq rn \leq r \Rightarrow -r \leq rn-r \leq r \Rightarrow D_{f(\frac{rn}{d})} = [-r, r]$$

(۲)

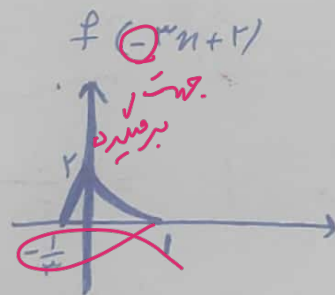
$$r- -r \leq rn \leq r \Rightarrow -r \leq rn+1 \leq r \Rightarrow -1 \leq \frac{rn+1}{r} \leq d \Rightarrow D_{f(\frac{rn}{d})} = [-1, d]$$

(۲)

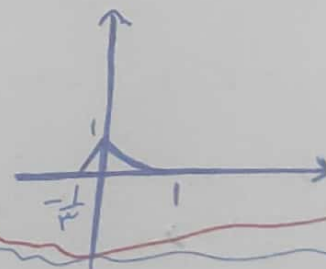
$$-1 \leq r-dn \leq d \Rightarrow -r \leq -dn \leq r \Rightarrow -\frac{r}{d} \leq n \leq \frac{r}{d} \Rightarrow D_{f(\frac{rn}{d})} = (-\frac{r}{d}, \frac{r}{d}]$$



صفحه آخر



$$y = \frac{1}{r} f(-rn+r)$$



$$s- \text{ext} \left| \begin{aligned} n_s &= \frac{-\frac{r}{d}}{-\frac{r}{d}} = \frac{r}{d} \\ y_s &= -\frac{1}{r}(\frac{r}{d}) + \frac{r}{d}(\frac{r}{d}) + 1 = \frac{r}{d} \end{aligned} \right.$$

$$\frac{r}{d} + \alpha = r \Rightarrow \alpha = \frac{r}{d}$$

(۲)

$$\frac{r}{d} + \beta = r \Rightarrow \beta = \frac{r}{d}$$

$$y = -\frac{1}{r}n^2 + \frac{r}{d}n + 1 = -\frac{r}{d} \Rightarrow -rdn^2 + r^2n + rd = -1 \Rightarrow rdn^2 - rn - 1 = 0$$

$$\Rightarrow (dn-1)(dn+1) = 0 \Rightarrow \begin{cases} n_1 = \frac{1}{d} \xrightarrow{+\alpha} n_1 = \frac{1}{d} + \frac{1}{d} = \frac{2}{d} = \boxed{1} \\ n_2 = -\frac{1}{d} \xrightarrow{+\alpha} n_2 = -\frac{1}{d} + \frac{1}{d} = \boxed{0} \end{cases}$$

$$V- \left. \begin{aligned} 3\alpha + 2 &= 1 \Rightarrow \alpha = -\frac{1}{3} \\ 1 - 2f(1) &= -1 \Rightarrow \beta = -1 \end{aligned} \right\} \Rightarrow \boxed{\alpha\beta = \frac{1}{3}}$$

(2)

$$\wedge- \left. \begin{aligned} D_{f(n-1)} &= (a+1, c+1) = (a+1, d) \\ D_{f(n+1)} &= (-1-1, b-1) = (-2, b-1) \\ D_{f(n-1)} \cap D_{f(n+1)} &= (-2, d) \end{aligned} \right\} \Rightarrow \begin{cases} a+1 = -2 \Rightarrow a = -3 \\ b-1 = d \Rightarrow b = d \end{cases}$$

$$a - b = -3 - d = \boxed{-4}$$

(2)

$$9- \Rightarrow -3 \leq n \leq d \Rightarrow -ord \leq \frac{n}{r} + 1 \leq 3d \Rightarrow D_{f(n)} = [-ord, 3d]$$

(2)

I: چون تابع به صورت $y_r = \sqrt{2f(n)-3}$ است پس متناهی باید n به دامنه تابع $f(n)$ تعلق داشته باشد
 $(= |2f(n)-3| \geq 0)$ معنای معادله است

$$\Rightarrow \boxed{D_{y_r} = [-ord, 3d]}$$

$$R_{y_r} = R_{f(\frac{n}{r}+1)} = R_{f(n)} \Rightarrow 1 \leq f(n) \leq r \Rightarrow -d \leq 2f(n)-3 \leq 1$$

$$\Rightarrow 0 \leq |2f(n)-3| \leq d \Rightarrow 0 \leq y_r \leq \sqrt{d} \Rightarrow \boxed{R_{y_r} = [0, \sqrt{d}]}$$

$$10- g(n) = f(n-r) + 1 = \left| \frac{(n-r)+1}{r(n-r)+1} \right| + 1 = \left| \frac{n-1}{rn-r} \right| + 1$$

(2)

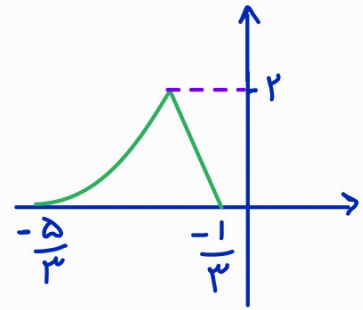
$$\left. \begin{aligned} g(n) + n &< 0 \\ g(n) &> 0 \end{aligned} \right\} \Rightarrow n < 0 \Rightarrow g(n) = \frac{n-1}{rn-r} + 1 = \frac{rn-r}{rn-r}$$

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

$$\Rightarrow rn^2 - r > 0 \Rightarrow n^2 > r \Rightarrow \begin{cases} n > \sqrt{r} \\ n < -\sqrt{r} \end{cases} \stackrel{n < 0}{\Rightarrow} \boxed{n < -\sqrt{r}}$$

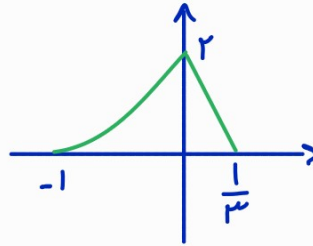
$$D_f = [-2, 4] \rightarrow -2 \leq \frac{x_n + 2}{\Delta} \leq 4 \rightarrow -10 \leq x_n + 2 \leq 20 \rightarrow -12 \leq x_n \leq 18$$

$$D_g = [-4, 4]$$



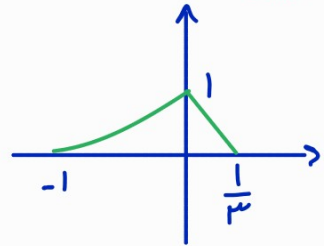
$$y = f(x)$$

واحد به راست



$$y = f(x - 2)$$

$$y = f(2 - x)$$



$$y = \frac{1}{2}f(2 - x)$$