

نام خانوادگی: ... (محل امضا) ... (محل مهر)

$$f(n) - n + 1 \geq 0 \quad f(n) = \begin{cases} r_{n-1} & [n] > r \\ r_{n+1} & [n] \leq r \end{cases} \Rightarrow \begin{cases} r_{n-1} & n > a \\ r_{n+1} & n < a \end{cases} \quad 11, 17.5$$

$$\Rightarrow \begin{cases} r_{n-1} - n + 1 \geq 0 & n > 0 \\ r_{n+1} - n + 1 \geq 0 & n \geq \frac{-r}{r} \end{cases} \quad [0, +\infty) \cap [a, +\infty) = [a, +\infty) \quad I$$

$$I \cup II = \left[\frac{-r}{r}, +\infty \right) \quad (-\infty, 0) \cap \left[\frac{-r}{r}, +\infty \right) = \left[\frac{-r}{r}, 0 \right) \quad II$$

$$\frac{r^n + r^4 n^r + 11n + r}{(r^n + r_{n+1})^r} = \frac{r(r_{n+1})(r_{n+1} + r_{n+1})}{(r_{n+1})(r_{n+1})^r} = \frac{r}{r_{n+1} + 1} \quad D_f = R - \left\{ \frac{1}{r} \right\}$$

-1/r

$$f(n) = \begin{cases} \frac{n^r + r_{n+1} - n - r}{n^r - 1} & , n \neq \pm 1 \Rightarrow \frac{(n^r - 1)(n + r)}{n^r - 1} = n + r \quad \left\{ b + c = \frac{1}{r} + r = \frac{r+1}{r} \right\} \\ \frac{an + r}{n + b} & , n = \pm 1 \Rightarrow \begin{cases} n = 1 \Rightarrow g(1) = 1 + r < r \\ n = -1 \Rightarrow \frac{-a + r}{-1 + b} = 1 \quad (-a + r < b - 1, a < r(b + 1)) \end{cases} \end{cases}$$

$$g(n) = \frac{a + r}{n + b} = \frac{a + r}{n + 1} \quad \left\{ \begin{array}{l} a + r < r \\ -1 + r < 1 \end{array} \right. \quad \rightarrow b = \frac{1}{r}$$

$$D_f = D_g \Rightarrow g(n) = \frac{(n+1)(n-1)}{n^r + an + b}, \quad f(n) = \frac{n+1}{n-c} \Rightarrow g(n) = \frac{(n+1)(n-1)}{(n-1)^r}$$

$$= \frac{n+1}{n-1} \quad \left\{ \begin{array}{l} c = 1 \\ n^r + an + b = n^r - r_{n+1} \end{array} \right. \quad \left\{ \begin{array}{l} a = -r \\ b = r \end{array} \right.$$

$$a + b + c = 10$$

$$f(n+1) = (n+1-r)^r (n+1-1) = (n-r)^r (n) \quad g(n) = \frac{1}{n} \quad \text{صفتی آفر...}$$

$$f(1-n) = (1-n-r)^r (1-n-1) = (-n-r)^r (-n) \quad f(n) = (n-r)^r (n-1)$$

$$g(n) = (n-r)^r (n) + (-n-r)^r (-n) \quad (n)((n-r)^r + -(-n-r)^r) = (n)(1)(1-n) = (n-n^r)(1) = -n^r + n$$

$$f(1) + f(r) \Rightarrow f(1-r) = \begin{cases} \sqrt[n]{n} + r & n < 0 \\ \sqrt[n]{n} & n > 0 \end{cases} \quad f(-1) = f(1-r) \Rightarrow n = 1$$

$$f(1) + 1 = 10 \quad \text{if } n = 1 \quad f(-1) = \sqrt[n]{n} / f(r) = f(1-r) \Rightarrow n = -1 \quad f(r) = \sqrt[n]{n-1} + r$$

$$f(n+\sqrt{n}) = n^2 + 2n \quad n+\sqrt{n} \leq 4 \rightarrow n \leq 4 \quad f(4) = 1^2 + 4 = 5 \quad \boxed{24\lambda}$$

$$f(n) = n^2 + 2n \quad f(n-1) + f(1-n) = (n-1)^2 + (n-1) + (1-n)^2 + (1-n) = 0$$

$$D_f \Rightarrow f(n) - f(a) \geq 0 \quad n \geq \frac{f_a}{f} \quad D(f-g) = D(f) \cap D(g) \quad (2) \quad 9$$

$$D_g \Rightarrow b - kn \geq 0 \quad n \leq \frac{b}{k} = \{1\} \quad \frac{f_a}{f} \leq 1 \quad a \leq \frac{f}{f} \quad \frac{b}{k} \leq 1 \quad b \leq k$$

$$f(1) = \sqrt{k-1} + k-1 = k-1 \quad g(1) = \sqrt{k-1} + 1k = 1k$$

$$kf-g = 1k-1-1k = k \quad k=1 \quad f_a - \frac{b}{k} - k = k-1-(-1) = 1$$

$$D_f \Rightarrow m-n \geq 0 \quad n \in (-\infty, m] \quad D_f \cap D_g = [-1, 1] \quad m=1 \quad (2) \quad 1.$$

$$D_g \Rightarrow km+r \geq 0 \quad n \geq -1 \quad n \in [-1, +\infty)$$

$$g(r) = r\sqrt{r} \quad f = 1\sqrt{r} \quad f(n) = \sqrt{m-n} + n = 1\sqrt{r} \quad \text{منطوقه}$$

$$f(r) = \sqrt{1-r} + n = 1\sqrt{r} \rightarrow n = 1\sqrt{r} - r$$

$$m+n = 1 + 1\sqrt{r} - r = 1\sqrt{r} + 0$$

$$f(r) - g(r) = 4\sqrt{r} \quad \text{ايضا؟}$$

$$f(1-n) = -n(-n-1)^2 = -n(n+1)^2 \quad \text{چون توان 2 دارد و منفی رو مرتفعه}$$

$$f(1-n) = (1-n-1)^2(1-n-1) = -n(n+1)^2$$

$$f(n+1) = (n+1-1)^2(n+1-1) = n(n-1)^2 \quad \text{منزوج}$$

$$g(n) = n(n-1)^2 - n(n+1)^2 = n((n-1)^2 - (n+1)^2) =$$

$$= n((n-1-n-1)(n-1+n+1)) = n(-2n) = -2n^2$$