

$$f(n) - n + 1 \geq 0 \quad \sqrt{n-1-n+1} = \sqrt{n} \geq 0 \quad (I) \quad (1)$$

$$\begin{cases} n-1 & n \geq 1 \quad (II) \\ n+1 & n < 1 \quad (III) \end{cases} \quad \sqrt{n+1-n+1} \geq 0 \rightarrow n \geq \frac{1}{n} \Rightarrow \frac{1}{n} \leq n < 1 \quad (**)$$

$$I \cap II = [1, +\infty) \quad ** \cup ** = \left[\frac{1}{n}, +\infty \right)$$

$$\frac{1}{n} \rightarrow \Delta n^3 + 12n^2 + 4n + 1 = 3(n+1)^3 \quad (1)$$

$$\Delta n^3 = \frac{3(n+1)^3}{(n^3 + (n+1)^3)} \rightarrow \frac{n^3 + (n+1)^3}{(n+1)^3} = 0 \rightarrow (n+1)^3 = 0 \rightarrow n = -1$$

$$D_f = \mathbb{R} - \left\{ -\frac{1}{n} \right\}$$

$$\frac{(n+1)(n-1)}{n^3 + an + b} = \frac{n+1}{n-c} \rightarrow n^3 + an + b = (n-1)(n-c) \quad (1)$$

$$b = c \quad -c - 1 = a \rightarrow a + c = -1$$

$$n = 1 \rightarrow \frac{1}{1-c} = \frac{1(1)}{1+a+b} \rightarrow 1-c = 1+a+b \rightarrow 1-b+a = -1 \rightarrow a+b = -1$$

?

$$f(n) \begin{cases} n+1 & n \neq \pm 1 \\ \frac{an+1}{n+b} & n = \pm 1 \end{cases} \rightarrow n=1 \rightarrow \frac{1}{b+1} = \frac{a+1}{b+1} \rightarrow 1+b = a+1 \rightarrow b = a \quad (1)$$

$$n = -1 \rightarrow \frac{-a+1}{b-1} = 1 \rightarrow b-1 = -a+1 \rightarrow a-1 = -b+1 \rightarrow a = 1 \rightarrow a = 1, b = 0$$

$$b + c = 1, a)$$



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$$f(n+1) = (n-r)^r(n) = \cancel{n^r} - \cancel{\varepsilon n^r} + \varepsilon n$$

-a

$$f(1-n) = (-n-r)^r(-n) = -\cancel{n^r} - \cancel{\varepsilon n^r} - \varepsilon n$$

$$g(n) = -\Delta n^r$$

$$1-rn = -1 \rightarrow n=1 \rightarrow r\sqrt{1} = r$$

-9

$$1-rn = r \rightarrow n = -1 \rightarrow -1+r = 1$$

a

$$n + \sqrt{n} = 4 \rightarrow n = r \rightarrow r^r + r(r) = r^4 + 1r = \boxed{r^4 + 1r}$$

-V

$$f(n) = n(n^r+1) \rightarrow f(n-1) = (n-1)(n^r-rn+1) = a$$

-1

$$f(1-n) \rightarrow (1-n)(n^r-rn+1) = -(n-1)(n^r-rn+1) = -a$$

$$\rightarrow f(n-1) + f(1-n) = \boxed{0}$$

$$rf - g = \{(1, k)\} \rightarrow n=1 \rightarrow r\sqrt{r-r_a} + r(r-r) = f(n)$$

-9

$$n=1 \rightarrow g(n) = \sqrt{b-r} + rk$$

$$rf - g = r\sqrt{r-r_a} + r(r-r) - \sqrt{b-r} - rk = k$$

$$rk + \sqrt{b-r} = r\sqrt{r-r_a}$$

$$\varepsilon k^r + b - r + rk\sqrt{b-r} = 1r$$

p

$$D_{f \times g} = [-1, V]$$

$$rn+r \geq 0 \rightarrow n \geq -1$$

-1

$$m-n \geq 0 \rightarrow V \geq n \rightarrow \boxed{m \leq V}$$

$$n=r \rightarrow f=r\sqrt{r}$$

$$g = r+n$$

$$r\sqrt{r} - r - n = 4\sqrt{r} \rightarrow \boxed{n = -r\sqrt{r} - r}$$

$$\boxed{m+n = a - r\sqrt{r}}$$

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