

(1)

$$P(n) - n + 1 \geq 0$$

$$P(n) \geq n - 1$$

$$\rightarrow [n] > \varepsilon \quad (n \geq 8) \quad P_{n-1} \geq n-1 \quad n \geq 0 \Rightarrow [0, +\infty)$$

$$\rightarrow [n] \leq \varepsilon \quad (n < 8) \quad P_{n+1} \geq n-1 \quad P_n \geq -\varepsilon \Rightarrow [-\frac{\varepsilon}{r}, \infty)$$

$$D_{\mathcal{L}} = [-\frac{\varepsilon}{r}, +\infty)$$

(2)

$$y = \frac{r(An^r + Bn^r + Cn + 1)}{((n+1)^r)^r} = \frac{r(n+1)^r}{(n+1)^r} = \frac{r}{n+1}, \quad D_{\mathcal{L}} = \mathbb{R} - \{-\frac{1}{r}\}$$

(3)

$$\frac{n^r + n^r - n - r}{n^r - 1} = n + c \quad \rightarrow \quad \frac{n^r + n^r - n - r}{n^r - 1} \cdot \frac{n^r - 1}{n^r - 1} = \frac{n^r + n^r - n - r}{n^r - 1} \Rightarrow \underline{c = r}$$

$$\begin{aligned} n+r &= \frac{an+r}{n+b} \xrightarrow{a=\pm 1} \frac{a+r}{1+b} = r \sim r+b+c = a+r \\ \frac{-a+r}{-1+b} &= 1 \sim b-1 = r-a \end{aligned} \quad \left\{ \begin{array}{l} b+r = c \\ b = \frac{1}{r} \quad a = \frac{8}{r} \quad c = r \end{array} \right.$$

$$a+b+c = \underline{8}$$

$$\begin{aligned} \frac{(n-1)(n+1)}{n^r + an + b} &= \frac{n+1}{n-c} \rightarrow \frac{n^r - 1}{n^r - n + 1} = \frac{n+1}{n-1} \\ \frac{(n-c)^r}{(n-1)^r} &= \frac{n+1}{n-1} \\ -r+1+1 &= \underline{0} \end{aligned}$$

(4)

$$\begin{aligned} \mathcal{L}(n) &= (n-c)^r (n-1) \xrightarrow{n+1} (n-r)^r (n) \\ &\xrightarrow{-n+1} \underbrace{(-n-r)^r}_{(n+r)^r} (-n) \end{aligned} \quad \left\{ + \Rightarrow n((n-r)^r - (n+r)^r) = (-\varepsilon)(n)n \right.$$

$$= \underline{-1n^r}$$

(5)

(9)

$$f(-1) + f(n) \rightarrow \begin{cases} \sqrt{n} + 2 & n \leq 0 \\ \sqrt{n} & n > 0 \end{cases}$$

$$\hookrightarrow f(1 - 1/n)$$

$$\begin{cases} 1 - 1/n = -1 & n = 1 \rightarrow \infty \\ 1 - 1/n = 0 & n = 1 \rightarrow 1 \end{cases} \quad \text{و}$$

(7)

$$n + \sqrt{n} = 2 \xrightarrow{n \rightarrow \infty} n^2 + 2n = (2^2)^2 + 2(2) = 24 + 4 = 28$$

خوابش وایسته
 $n = 2$
 و میسه $\sqrt{n} = 2$ گرفت
 و معادله حل کرد

(1)

اگر یک متغیر فکری کنیم تابع $n^2 + n$ فرد است $f(n) = -f(n)$ متغیر میماند

$$f(t) + f(-t) = 0$$

(9)

$$D_f \Rightarrow n - \epsilon a \geq 0 \quad n \geq \frac{\epsilon}{a} a \rightarrow \frac{na}{\epsilon} = \frac{b}{\epsilon} = 1$$

$$D_g \Rightarrow b - \epsilon n \geq 0 \quad n \leq \frac{b}{\epsilon}$$

$$\begin{matrix} b = \epsilon \\ a = \frac{\epsilon}{2} \end{matrix}$$

$$\epsilon - 2 + 1 = 3$$

$$2f - g \Rightarrow$$

$$\xrightarrow{n=1} 2k - 2 - 3k = -k - 2 = k \rightarrow k = -1$$

(1)

$$D_g \Rightarrow n \geq -1$$

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

$$g(n) = \sqrt{n+2} \quad f(n) = \sqrt{n-2} + n$$

$$m + n = 1\sqrt{2} - 2 + 2 = 1\sqrt{2} + 8$$

$$\sqrt{n-2} + n - \sqrt{1} = 2\sqrt{2} \quad 2 + n - 2\sqrt{2} = 2\sqrt{2} \quad n = 4\sqrt{2} - 2$$