

مقدار: $\frac{1}{\sqrt{r}}$ و $\frac{1}{\sqrt{r}}$ و $\frac{1}{\sqrt{r}}$

$$f(u) = \sqrt{p(u) - u + 1} \quad f(u) = \begin{cases} r_{n-1} & [u] > \varepsilon \\ r_{n+r} & [u] \leq \varepsilon \end{cases} \quad (1)$$

$$[u] > \varepsilon \Rightarrow \sqrt{r_{n-1} - u + 1} \Rightarrow \sqrt{u} \rightarrow \dots \quad [u] \leq \varepsilon \Rightarrow \sqrt{r_{n+r} - u + 1} = \sqrt{r_{n+\varepsilon}} \rightarrow r_{n+\varepsilon} \geq 0 \rightarrow u \geq -\frac{\varepsilon}{r}$$

$$f = \frac{r \varepsilon r^r + r \gamma r^r + 1 u + r}{(r_{n+r} + \varepsilon u + 1)^r} \Rightarrow \frac{r(1 u^r + 1 r u^r + r u + 1)}{f(r_{n+r})^r (u + \frac{1}{r})^r} \quad (2)$$

$$\frac{r(1 u^r + 1 r u^r + r u + 1)}{f(r_{n+r})^r (u + \frac{1}{r})^r} \rightarrow \frac{r(r_{n+1})(r_{n+r+1} - r_n) + r u(r_{n+1})}{f(r_{n+1})^r (u + \frac{1}{r})^r} \rightarrow \frac{r(r_{n+1})(r_{n+r+1} + \varepsilon u)}{(r_{n+r} + \varepsilon u + 1)^r}$$

$$f(u) = \begin{cases} \frac{u^r + r u^r - u - r}{u r - 1} & u \neq \pm 1 \\ \frac{a u + r}{u + b} & u \neq \pm 1 \end{cases} \quad g(u) = u + \frac{r}{u}$$

$$u \neq 0 \Rightarrow f(u) = g(u) \Rightarrow r = \cancel{u} + c \rightarrow \boxed{c = r} \quad b + c = r/u$$

$$u = -1 \rightarrow \frac{-a + r}{-1 + b} = 1 \rightarrow -1 + b = -a + r \rightarrow a + b = r$$

$$u = 1 \rightarrow r = \frac{a + r}{1 + b} \Rightarrow r b + r b = a + r \rightarrow r b - a = -1 \rightarrow \boxed{r b = 0/u}$$

②

$$f(u) = \frac{u+1}{u-c} \quad g(u) = \frac{u^r-1}{u^r+au+b} \rightarrow \frac{u+1}{u-c} = \frac{(u-1)(u+1)}{u^r+au+b} \rightarrow (2-c)(u-1) = u^r+au+b$$

$$(u-c)^r = u^r + au + b$$

$$u^r + \cancel{c^r} + \cancel{r c^{r-1} u} = u^r + \cancel{a} u + \cancel{b}$$

$$\boxed{a+b+c=0} \quad \begin{matrix} -rc < r \\ u^r - (c+1)u + c = u^r - rcu + c \\ -c-1 = -rc \rightarrow c=1 \quad \begin{matrix} b \leq r \\ b=1 \end{matrix} \\ a = -2 \end{matrix}$$

③

$$f(u) = (u-r)^r (u-1)$$

$$f(u+1) = (u-r)^r u$$

$$f(1-u) = -(r+u)^r u$$

$$g(u) = f(u+1) + f(1-u)$$

$$u(r^r - ru + \varepsilon) - u(r+u^r + \varepsilon u)$$

$$\cancel{u^r} - \cancel{ru^r} + \cancel{\varepsilon u} - \cancel{ru^r} - \cancel{u^r} - \varepsilon u = -1u^r$$

④

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

$$f(1) + f(r) =$$

$$r + 1 = 0$$

$$1 - ru = -1 \rightarrow u \leq 1$$

$$1 - ru = r \rightarrow u = -1$$

⑤

$$f(u + \sqrt{u}) = u\varepsilon + ru \rightarrow \varepsilon^r + r \times \varepsilon = r\varepsilon u$$

$$u + \sqrt{u} \neq 0 \rightarrow u = \varepsilon$$

⑥

$$f(u) = u^r + u$$

$$f(u-1) + f(1-u)$$

$$(u-1)^r + u + (1-u)^r + 1 - u \Rightarrow u^r - 1 - r u^{r-1} + ru + 1 - u^r + ru^{r-1} - ru = 0$$

⑦

$$f(u) = \sqrt{cu - ra} + k - 1 \quad g(u) = \sqrt{b - fu} + rk$$

$$cu - ra > 0 \rightarrow u > \frac{ra}{c}$$

$$b - fu > 0 \rightarrow u < \frac{b}{f}$$

$$\xrightarrow{\text{交集}} \left[\frac{ra}{c}, \frac{b}{f} \right] \rightarrow \frac{ra}{c} = 1 \quad \frac{b}{f} = 1 \rightarrow b = 2$$

$$c - ra = 0 \rightarrow f(1) = k - 1$$

$$b - fu = 0 \rightarrow g(1) = rk$$

$$ra - \frac{b}{f} - k = \mu$$

$$(f f - g) (1) = k$$

$$r(k-1) - rk' = k \rightarrow k = 1$$

