

$$f(x) = \sqrt{\epsilon x - \tau a} + k - 1 \quad b - \epsilon \geq 0 \quad b \geq \tau \quad (9)$$

$$g(x) = \sqrt{b - \epsilon x} + \tau k \quad \epsilon - \tau a \geq 0 \quad \epsilon \geq \tau a$$

$$\tau f - g = \{(1, k)\} \rightarrow D_f \cap D_g = \{1\} \quad \frac{\epsilon}{\tau} \geq a$$

$$\tau \sqrt{\epsilon x - \tau a} + \tau k - \tau - \sqrt{b - \epsilon x} - \tau k =$$

$$\tau \sqrt{\epsilon - \tau a} + \tau k - \tau - \sqrt{b - \epsilon} - \tau k = \tau k$$

$$\sqrt{b - \epsilon} = 0 \quad \left\{ \begin{array}{l} b = \epsilon \\ \tau a = \epsilon \\ a = \frac{\epsilon}{\tau} \end{array} \right.$$

$$\tau k = -1 \quad \tau - \tau + 1 = \tau$$

$$f(x) = \sqrt{m - x} + x \quad [-\infty, m] \quad D_f \cap D_g = [-1, \sqrt{r}] \quad (10)$$

$$g(x) = \sqrt{\tau x + \tau} \rightarrow [-1, +\infty) \quad m = \sqrt{r}$$

$$f - g = \sqrt{m - x} + x - \sqrt{\tau x + \tau} \quad x = \sqrt{r}$$

$$m = \sqrt{r}$$

$$\sqrt{\sqrt{r} - \tau} + x - \sqrt{\tau} = 0 \quad \sqrt{\tau}$$

$$\tau + \tau = \sqrt{\tau}$$

$$x = \sqrt{\tau} - \tau$$

$$m + x =$$

$$\sqrt{\tau} - \tau + \sqrt{r}$$

$$\sqrt{\tau} + \sqrt{r}$$

⑤ وقتی تابع ها برابر است ضابطه و دامنه برابر است

$$g(n) = \frac{n^2 - 1}{n^2 + an + b}$$

$$f(n) = \frac{n+1}{n-c} \rightarrow D_f = \mathbb{R} - \{c\} = D_g$$

$$c^2 + ac + b = 0 \rightarrow 1 + a + b = 0 \quad \frac{n^2 - 1}{n^2 + an + b} = \frac{(n+1)(n-1)}{(n-c)(n-1)}$$

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

$$b = 1 \quad a = -2$$

$$a + b + c = 0$$

$$c = 1$$

$$\frac{n+1}{n-c}$$

$$f(n) = (n-1)^2(n-1) \quad g(n) = f(n+1) + f(1-n) \quad \textcircled{6}$$

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

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

$$g(n) = n(n-1)^2 - n(2+n)^2 = n(n^2 + 1 - 4n - 2n^2 - 4n - 4) = -12n^2$$

$$1 - 2n = 2$$

$$-2 = 2n$$

$$n = -1$$

$$1 - 2n = -1$$

$$2 = 2n$$

$$n = 1$$

$$f(-1) = 4$$

$$f(1) = 1$$

$$f(-1) + f(1) = 5$$

$$f(4) = f(4 + \sqrt{4}) = 25 + 12 = 37$$

$$n + \sqrt{n} = 4 \quad n + \sqrt{n} - 4 = 0 \quad (n=9) \rightarrow (\sqrt{n+4}) / \sqrt{n-1} \quad \sqrt{2} = 2 \quad n=4$$

$$f(n) = n^2 + n \quad f(n-1) = (n-1)^2 + (n-1) \quad \textcircled{7}$$

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

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

$$\text{Original } f(x), f(n) \text{ are linear } f(n)$$

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

$$y = \sqrt{f(n) - n + 1} \quad (1)$$

$$f(n)+1 = \begin{cases} r_n & n \geq 0 \\ r_{n+r} & n < 0 \end{cases} \longrightarrow \begin{matrix} r_n \geq n \\ r_{n+r} \geq n \end{matrix}$$

$$D_f = \left[-\frac{r}{r} + \infty \right]$$

$$\frac{r(r_{n+r} + r_{n+r} + 1) + 1}{(r_{n+r} + r_{n+r} + 1)^r} = \frac{r(1 + r_{n+r} + r_{n+r})}{(r_{n+r})^r}$$

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

$$\begin{matrix} r_{n+1} \neq 0 \\ n \neq -\frac{1}{r} \end{matrix}$$

$$g(n) = n + c$$

$$f(n) = \begin{cases} \frac{r^r + r_{n+r} - n - r}{r^r - 1} & n \neq \pm 1 \\ \frac{a_{n+r}}{n+b} & n = \pm 1 \end{cases} \quad (2)$$

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$$n = \pm 1$$

$$c - 1 = \frac{r - a}{b - 1} = 1$$

$$b - 1 = r - a \quad b = r - a$$

$$c + 1 = \frac{r + a}{b + 1} = r \longrightarrow ra = rb + r$$

$$ra = 1r - ra \longrightarrow ra = 0$$

$$n \neq \pm 1$$

$$\frac{r^r + r_{n+r} - n - r}{r^r - 1} = n + c$$

$$a = r, d$$

$$b = r, d$$

$$r^r + r_{n+r} - n - r = r^r - n + c r^r - c$$

$$c = r$$

$$b + c = r, d$$

