

$$f(n) = \begin{cases} 2n-1 & [n] > \varepsilon \rightarrow n > \varepsilon \\ 2n+1 & [n] < \varepsilon \rightarrow n < \varepsilon \end{cases}$$

$$y = \sqrt{f(n) - n + 1} \rightarrow f(n) - n + 1 > 0$$

$$n > \varepsilon \quad 2n-1-n+1 = n > 0 \rightarrow n > \varepsilon$$

$$n < \varepsilon \quad 2n+1-n+1 = n+2 > - \rightarrow n > -\frac{\varepsilon}{2} \rightarrow \frac{\varepsilon}{2} < n < \varepsilon$$

$$D = [-\frac{\varepsilon}{2}, \varepsilon) \cup [\varepsilon, +\infty) = [-\frac{\varepsilon}{2}, +\infty)$$

$$y = \frac{2\varepsilon n^2 + 2\varepsilon n + 1}{(\varepsilon n^2 + \varepsilon n + 1)^2} = \frac{2(1n^2 + 1n + 1)}{(n+1)^2} = \frac{2(1n^2 + 1n + 1)}{(n+1)^2}$$

$$\frac{2((n+1)(\varepsilon n^2 - 2n + 1))}{-(n+1)^2} = \frac{2x(n+1)}{(n+1)^2} = \frac{2}{n+1}$$

$$R_F = 1P - \left\{ -\frac{1}{P} \right\}$$

$$f(n) = \begin{cases} \frac{n^2 + 2n^2 - n - 2}{n^2 - 1} & n \neq \pm 1 \rightarrow \frac{n^2 + 2n^2 - n - 2}{-n^2 + n} \cdot \frac{n^2 - 1}{n+2} \\ \frac{an+r}{n+b} & n = \pm 1 \end{cases}$$

$$g(n) = n+C \rightarrow n+C = n+2 \quad C = 2$$

$$f(1) = 2, \quad g(-1) = 1$$

$$b+C = 2 + \frac{1}{2} = \frac{5}{2}$$

$$f(n) = \frac{n+1}{n-1}$$

جدول این مسئله را در
برای آنکه دانش ما برابر شود
مهمترین مسئله را در

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

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

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

$$a+b+C = -2+1+1 = 0$$

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

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

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

$$n \left(\cancel{n^2 - 2n + 1} - \cancel{n^2 - 2n - 1} \right) = -1n^2$$

$$f(1-x) = \begin{cases} x\sqrt{x} + x & x \geq 0 \\ x\sqrt{x} & x < 0 \end{cases}$$

$$f(-1) + f(2) = ?$$

$$\boxed{\Sigma + 1 = 2} \checkmark$$

(r) - 4

$$1-x = -1 \rightarrow x = 2 \rightarrow x \geq 1 \rightarrow f(-1) = x\sqrt{1} = \Sigma$$

$$1-x = 2 \rightarrow x = -1 \rightarrow x < 1 \rightarrow f(2) = x\sqrt{-1} + x = 1$$

$$f(x+\sqrt{x}) = x\Sigma + x$$

$$f(4) = ?$$

(r) - V

$$f(4) = \Sigma^2 + x\Sigma = 16 + 12 = 28 \checkmark$$

$$x+\sqrt{x} = 4 \rightarrow t^2+t-4=0 \rightarrow (t+2)(t-2)=0$$

$$\frac{\sqrt{4+1}-1}{2} \quad \frac{\sqrt{4+1}+1}{2} \rightarrow x = \Sigma$$

$$f(x) = x^r + x \rightarrow x(x^r+1)$$

(r) - 1

$$f(\frac{x-1}{a}) + f(\frac{1-x}{-a}) \rightarrow a(a^r+1) + -a(a^r+1)$$

$$a^r+a - a^r-a = 0 \checkmark$$

$$f(x) = \sqrt{\Sigma x - x} + k - 1$$

$$g(x) = \sqrt{b - \Sigma x} + xk$$

(r) - 4

$$f-g = \{(1, k)\} \rightarrow D_f \cap D_g = \{1\}$$

$$\begin{cases} D_f \rightarrow \Sigma x - x = 1 \rightarrow x = 1, \frac{x}{\Sigma} = 1 \rightarrow x = \Sigma \rightarrow x = \frac{\Sigma}{1} \\ D_g \rightarrow b - \Sigma x = 1 \rightarrow x = \frac{b-1}{\Sigma} = 1 \rightarrow b = \Sigma \end{cases}$$

$$f(x) = \sqrt{\Sigma x - x} + k - 1$$

$$g(x) = \sqrt{b - \Sigma x} + xk$$

$$f-g = \{(1, k-1-k)\}$$

$$-k-1=k \rightarrow k = -1 \checkmark$$

$$x = \frac{b}{1} - k = \Sigma - 1 + 1 = \Sigma \checkmark$$

$$f(x) = \sqrt{m - x} + n$$

$$\rightarrow m-x \geq 0 \rightarrow x \leq m \rightarrow m \leq V$$

(r) - 1

$$g(x) = \sqrt{x+1} \rightarrow x+1 \geq 0 \rightarrow x \geq -1$$

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

$$f-g(x) = \sqrt{V-1} + n - \sqrt{1} = 9\sqrt{1}$$

$$1+n-\sqrt{1} = 9\sqrt{1} \rightarrow n = 10\sqrt{1}-1$$

$$m+n = V + 10\sqrt{1}-1 = 2 + 10\sqrt{1} \checkmark$$