

$$f(x) = \begin{cases} (a+1)(x+r) & x > 1 \\ \sqrt{a} + rx & x \leq 1 \end{cases}$$

$$rF(\omega) = f(-r) + a$$

$$F(0) = (a+1)(\sqrt{a}+r) = \sqrt{a} + \sqrt{a}$$

$$F(-r) = \sqrt{a} - r$$

$$\rightarrow r(va+v) = \sqrt{a} - r + a \rightarrow 1\sqrt{a} + 1\sqrt{a} = \sqrt{a} - r + a$$

$$10a = -1\sqrt{a} \rightarrow a = -\frac{1}{10}$$

$$f(x) = \sqrt{x} + \frac{1}{\sqrt{x}} + r \rightarrow \sqrt{r+\sqrt{r}} + \frac{1}{\sqrt{r+\sqrt{r}}} + r \rightarrow \sqrt{r-\sqrt{r}} + \frac{1}{\sqrt{r-\sqrt{r}}} + r = r(\sqrt{r+\sqrt{r}} + \sqrt{r-\sqrt{r}}) + \frac{1}{\sqrt{r+\sqrt{r}} + \sqrt{r-\sqrt{r}}} + \frac{1}{\sqrt{r+\sqrt{r}} - \sqrt{r-\sqrt{r}}} + r$$

$$F(r-\sqrt{r}) + F(r+\sqrt{r})$$

$$\frac{1}{\sqrt{r+\sqrt{r}}(\sqrt{r-\sqrt{r}})} = \frac{\sqrt{r-\sqrt{r}}}{\sqrt{r-\sqrt{r}}(\sqrt{r+\sqrt{r}})} \cdot \frac{1}{\sqrt{r-\sqrt{r}}} \Rightarrow \sqrt{r+\sqrt{r}}$$

$$(\sqrt{r+\sqrt{r}} + \sqrt{r-\sqrt{r}}) = \sqrt{4} = 2$$

$$(\sqrt{r+\sqrt{r}} + \sqrt{r-\sqrt{r}})^2 = r + \sqrt{r} + r - \sqrt{r} + 2\sqrt{r+\sqrt{r}}\sqrt{r-\sqrt{r}} = 4$$

$$rF(x) - rf(-x) = \varepsilon x^r - x$$

$$x \rightarrow rF(x) - rf(-x) = \varepsilon x^r - x \xrightarrow{x \rightarrow -x} rF(-x) - rf(x) = \varepsilon (-x)^r - (-x)$$

$$-x \rightarrow rF(-x) - rf(x) = \varepsilon x^r + x \xrightarrow{x \rightarrow x} rF(x) - rf(-x) = \varepsilon x^r - x$$

$$-5F(x) = r \cdot x^r + x \rightarrow F(x) = -\frac{rx^r + x}{5}$$

$$(n+r)f(x) - rn f(x+r) = \varepsilon x^r - nx + rm - 1$$

$$f(0) = \frac{r\omega}{\varepsilon}$$

$$x=0 \rightarrow (r)f(0) = rm - 1 \rightarrow rF(0) = rm - 1$$

$$x=-r \rightarrow rf(0) = (r+r)f(0) = rm - 1 \rightarrow rf(0) = 1\sqrt{a} + 1\sqrt{a} = \sqrt{a} - r + a$$

$$rf(0) = r \cdot \frac{r\omega}{\varepsilon} - 1 \Rightarrow F(0) = \frac{r\omega}{\varepsilon} = \frac{r\omega}{\varepsilon}$$

$$f(x) + f\left(\frac{1}{x}\right) = \frac{rx^r - 1rx + r}{x}$$

$$ax + b + a\left(\frac{1}{x}\right) + b = \frac{rx^r - 1rx + r}{x}$$

$$ax + b + \frac{a}{x} + b = \frac{rx^r - 1rx + r}{x}$$

$$ax + rb + \frac{a}{x} = \frac{rx^r - 1rx + r}{x}$$

$$ax + rb + \frac{a}{x} = rx - 1x + \frac{r}{x}$$

$$a=r, b=-r$$

$$F(x) = ax + b \rightarrow F(x) = rx - r \rightarrow F(-1) = -r - r = -2r$$

$$f(-1)$$

$$x=-1 \rightarrow F(-1) + f(-1) = \frac{r+1r+r}{-1}$$

$$\rightarrow rF(-1) = -1\sqrt{a} \rightarrow F(-1) = -\frac{1}{r}$$

A, 75

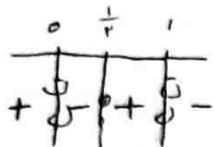
نوعی از دهم نخت

تالیف

ناک، نا، خانقاری، پارسه

$$f(x) = \sqrt{\frac{x-1}{x}} - \frac{x}{x-1}$$

$$\frac{x^2+1-2x-x^2}{x^2-x} = \frac{1-2x}{x^2-x} \geq 0$$



$$D = (-\infty, 0) \cup [\frac{1}{2}, 1)$$

$$f(x) = \frac{\frac{1}{x+1} - \frac{2}{x}}{\frac{3}{x-1} + \frac{1}{x+2}}$$

$$\begin{aligned} x+1 \neq 0 &\rightarrow x \neq -1 \\ x \neq 0 \\ x-1 \neq 0 &\rightarrow x \neq 1 \\ x+2 \neq 0 &\rightarrow x \neq -2 \end{aligned}$$

$$\frac{2x+4+x-1}{x^2+x-2} \neq 0 \rightarrow f(x) \neq 0 \rightarrow x \neq -\frac{5}{2}$$

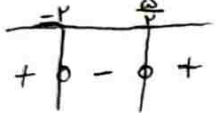
$$D = \mathbb{R} - \left\{ -2, -\frac{5}{2}, -1, 0, 1 \right\}$$

$$f(x) = \sqrt{\left(\frac{1}{x}\right)^2 - 9} (32 - x^2)$$

$$\left(\left(\frac{1}{x}\right)^2 - 9\right) (32 - x^2) \geq 0$$

$$\left(\frac{1}{x}\right)^2 = 9 \rightarrow x = \pm \frac{1}{3} \quad 32 - x^2 = 0 \rightarrow x = \pm \sqrt{32} = \pm 4\sqrt{2}$$

$$\left(\frac{1}{x}\right)^2 = 9 \rightarrow x = \pm \frac{1}{3} \rightarrow x = -\frac{1}{3} \rightarrow x = -2$$



$$D = (-\infty, -2] \cup [\frac{1}{3}, \infty)$$

$$f(x) = \sqrt{x-1} + \sqrt{y+1} = 3$$

$$\sqrt{y+1} = -\sqrt{x-1} + 3$$

$$3 - \sqrt{x-1} \geq 0 \rightarrow 3 \geq \sqrt{x-1}$$

$$3 \geq \sqrt{x-1} \rightarrow 9 \geq x-1 \rightarrow x \leq 10$$

$$\sqrt{x-1} \geq 0 \rightarrow x-1 \geq 0 \rightarrow x \geq 1$$

$$D_1 \cap D_2 = [1, 10]$$

$$f(x) = \log_{\frac{1}{e}} \frac{(x^2-x-2)}{\sqrt{x^2-1} + 1}$$

$$x^2-x-2 > 0 \rightarrow (x-2)(x+1) > 0$$

$$\sqrt{x^2-1} + 1 \neq 0 \rightarrow \sqrt{x^2-1} \neq -1 \rightarrow x^2-1 \geq 0 \rightarrow x \geq 1 \text{ or } x \leq -1$$



$$D = (-\infty, -1) \cup (2, \infty)$$

$$\sqrt{3+an-x^2}$$

$$-x^2+an+x^2 \geq 0$$

$$\begin{cases} 5x_1+x_2 = -\frac{b}{a} \rightarrow b-2 = -\frac{a}{-1} \rightarrow b-2 = a \\ P = x_1x_2 = \frac{c}{a} \rightarrow -2 \times b = \frac{3}{-1} \rightarrow 2b = 3 \rightarrow b = \frac{3}{2} \end{cases}$$

$$D = [-2, b] \quad a+b =$$

$$a = \frac{3}{2} - 2 = -\frac{1}{2} \rightarrow a+b = -\frac{1}{2} + \frac{3}{2} = 1$$

$$f(x) = \begin{cases} 3x-2 & x \geq 1 \\ 2x+2 & x < 1 \end{cases}$$

$$x \geq 1 \rightarrow 3x-2 \geq x \rightarrow 2x \geq 2 \rightarrow x \geq 1$$

$$x < 1 \rightarrow 2x+2 \geq x \rightarrow x \geq -2 \Rightarrow -2 \leq x < 1$$

$$D_f \rightarrow (x \geq 1) \cup (-2 \leq x < 1) \rightarrow x \geq -2$$

$$g(x) = \sqrt{f(x)-x} \rightarrow f(x) \geq x$$

$$D_g = [-2, \infty)$$