

1,20

$$D_7 = (-2, -1) \cup (0, 1) \cup (1, 2)$$

مثبت n از $x=1$ مثبت است $\frac{5}{2}$

1,22

$$D \neq [1, \wedge \vee]$$

$$Q_I = (-\infty, -1] \cup [1, \infty)$$

$$\frac{I \cap II}{\longrightarrow} (-\infty, -1) \cup (2, \infty)$$

$$\Delta = \frac{1}{c} - c(-1)(w) = \frac{c^2}{c} \rightarrow \begin{cases} a_1 = \frac{\frac{1}{r} + \frac{v}{r}}{-r} = (-r) \\ a_2 = \frac{\frac{1}{r} - \frac{v}{r}}{-r} = \left(\frac{w}{r}\right) \rightarrow b \end{cases}$$

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

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

$$D_g = [-1, +\infty)$$

$$f(m) = \sqrt{m} - \epsilon m \quad \frac{r\sqrt{r}}{r} \quad - \frac{\epsilon + r\sqrt{r}}{r} \quad f(\sin \frac{\pi}{4} + \cos \frac{\pi}{4}) = ? \quad - \frac{\epsilon + r\sqrt{r}}{r} - \frac{r}{r} = -\frac{\epsilon + r\sqrt{r}}{r}$$

$$f(\sin \frac{\pi}{4}) = \sqrt{\sin \frac{\pi}{4}} (\sin \frac{\pi}{4} - r) \Rightarrow -\frac{\epsilon + r\sqrt{r}}{r}$$

$$f(\cos \frac{\pi}{4}) = \sqrt{\cos \frac{\pi}{4}} (\cos \frac{\pi}{4} - r) \Rightarrow -r$$

$$-\frac{\epsilon + r\sqrt{r}}{r}$$

$$f(a+b) \neq f(a) + f(b)$$

$$f(v) = \sum_{p \in P} \dots$$

Scanned with

$$f(n) = \frac{n+1}{n-1} \quad f(f(a)) = a \quad ? \text{رابطه را پیدا کنید}$$

$$f(a) = \frac{a+1}{a-1} \rightarrow f\left(\frac{a+1}{a-1}\right) = a \rightarrow \frac{\frac{a+1}{a-1} + 1}{\frac{a+1}{a-1} - 1} = a \rightarrow \text{با این فرمول باید برقرار باشد}$$

$$D_f = \mathbb{R} - \{1\}$$

$$f(n) = n^2 - \varepsilon n \quad g(n) = \sqrt{n^2 - 1} \quad f(g(a)) = -\varepsilon \quad a = ?$$

$$g(a) = \sqrt{a^2 - 1} \rightarrow f(\sqrt{a^2 - 1}) = (\sqrt{a^2 - 1})^2 - \varepsilon(\sqrt{a^2 - 1}) = -\varepsilon$$

$$(\sqrt{a^2 - 1})^2 - \varepsilon(\sqrt{a^2 - 1}) + \varepsilon = 0 \rightarrow (\sqrt{a^2 - 1} - \varepsilon)^2 = 0 \rightarrow a = \pm \sqrt{\varepsilon^2 + 1}$$

$$f(n+r) = n^2 - an + 9 \quad f(\varepsilon) \times f(-\varepsilon) = ? \quad \varepsilon \times \sqrt{\varepsilon} \Rightarrow \boxed{\sqrt{\varepsilon^3}}$$

$$n+r = \varepsilon \rightarrow \boxed{n = 1} \rightarrow f(\varepsilon) = \varepsilon$$

$$n+r = -\varepsilon \rightarrow \boxed{n = -9} \rightarrow f(-\varepsilon) = \sqrt{\varepsilon}$$

$$f(\varepsilon \cos n + a \cos n) = \tan^2 n \quad f(r) = ?$$

$$\frac{\varepsilon a}{1-a} = \frac{v}{r}$$

$$\varepsilon \cos n + a \cos n = r/a \rightarrow \cos n (\varepsilon \cos n + a) = r/a \rightarrow \cos n = \frac{1}{r}, a \rightarrow \frac{1}{r} (r + a) = \frac{v}{r}$$

$$f(r, a) = \tan^2 n \rightarrow \tan^2 n = \frac{r}{a} \rightarrow \boxed{\frac{v}{r} = \frac{v}{r}}$$

$$\boxed{\frac{v}{r} = \frac{v}{r}}$$

تکامل ریشه‌های مخرج‌ها نباید در دامنه باشند! $x+1 \neq 0 \rightarrow x \neq -1$ $x \neq 0$ $x-1 \neq 0 \rightarrow x \neq 1$ **ب- ۱)**

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

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

ب- ۲) $\sqrt{x-1} + \sqrt{y+1} = 3$ و $\underbrace{\sqrt{y+1}}_{\text{همواره نامنفی!}} = \underbrace{3 - \sqrt{x-1}}_{\text{همواره نامنفی!}} \rightarrow 3 - \sqrt{x-1} \geq 0 \rightarrow \sqrt{x-1} \leq 3 \rightarrow x \leq 10$

$\downarrow$
 $x-1 \geq 0 \rightarrow x \geq 1$ I

I, II $\rightarrow 1 \leq x \leq 10 \rightarrow D_f = [1, 10]$

$$f(n) = 2n^2 - 2n = 2n^2 - 2n + 2 - 2 = 2(n^2 - 2n + 1) - 2 = 2(n-1)^2 - 2 \quad \text{--- 4}$$

$$\sin \frac{\pi}{x} + \cos \pi = \sqrt{\frac{x}{x}} + 1 \rightarrow f\left(\sqrt{\frac{x}{x}} + 1\right) = 2\left(\sqrt{\frac{x}{x}} + 1 - 1\right)^2 - 2 = 2\left(\frac{x}{x}\right) - 2 = -\frac{1}{x}$$