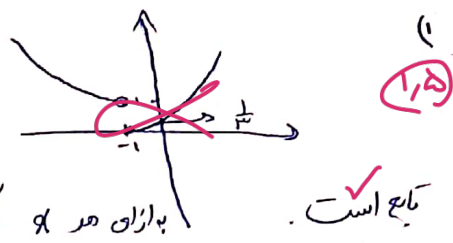


$$a = \begin{cases} 3y-1 & [y \geq 0] \\ -y^2 & [y > 1] \end{cases} \quad \begin{matrix} 3y-1 \geq -1 & [a \geq -1] \\ -y^2 < -1 & [a < -1] \end{matrix}$$



تابع است. بازوان هر x یک متناهی عدد بدیه بدون اسم صفر لحاظ شود صفر

$$\sqrt{\frac{x \neq f(a-r)}{f(x)}} \rightarrow \text{ریشه ها} : 0, -2, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100$$

$$D_f = (-\infty, 2] \cup [0, 3) \cup [7, +\infty)$$

$$a^3 - 4a \neq 0 \quad a(a^2 - 4) = a(a+2)(a-2) \neq 0$$

$$a = 0, -2, 2 \quad D_f = \mathbb{R} - \{-2, 0, 2\}$$

$$g(a) = \sqrt{\frac{a^4 - 4a^2 + 2}{a^3 - 4a}} \geq 0 \rightarrow \Delta = 4 - 14z - 7 \rightarrow + \text{موجب}$$

$$D_g = [-2, 0) \cup (2, +\infty)$$

$$\sqrt{\frac{a-2}{a^4 - 4a^2 - a}} \rightarrow a = 2$$

$$(a+2)(a-2) \leftarrow \begin{matrix} (a^2 - 4) \\ a = \pm 2 \end{matrix} \rightarrow \text{خارج}$$

$$D_g = (-2, +\infty) - \{2\}$$

$$f = 2[-a] \neq 0 \quad -2[-a], -4 \quad [-a], 2 \quad 2 \leq a < 3 \quad -2, a > -3$$

$$D_f = \mathbb{R} - (-3, -2]$$

$$\sqrt{\frac{x(a^2-1)}{\sqrt{a^2+a}}} \rightarrow a(a+1)(a-1) \geq 0 \quad \frac{-1}{-1+1-1} + [-1, 0] \cup [1, +\infty)$$

$$\rightarrow |a| + a > 0 \quad |a| > -a \rightarrow a > -a \rightarrow a \in (0, +\infty) \quad \text{①}$$

$$D_f = \text{①} \cap \text{②} = [1, +\infty)$$

$$|a-2| - a^2 \geq 0 \quad |a-2| > a^2 \rightarrow a-2 > a^2 \rightarrow a^2 - a + 2 \leq 0 \quad \text{①}$$

$$a-2 \leq -a^2 \rightarrow a^2 + a - 2 \leq 0 \quad \text{②}$$

$$\text{①} \rightarrow \Delta = 1 - 4 \times 2 = -7 \rightarrow + \text{موجب} \rightarrow \emptyset$$

$$\text{②} \rightarrow (a+2)(a-1) \leq 0 \rightarrow a \in [-2, 1]$$

$$D_f = [-2, 1]$$

منج رو در تفرقه
نه رفتی!

$$y = \sqrt{(a-r)[a-r]} \quad (a-r)[a-r] \geq 0 \quad + \frac{r}{\phi} \frac{r}{\phi} + \quad D_y = \mathbb{R} \checkmark \quad (a) \quad (4)$$

$a: r \quad r < a < r$

$$y = \sqrt{|a+1|[a-r]} \quad -\frac{1}{\phi} - \frac{r}{\phi} \frac{r}{\phi} + \quad D_y = [r, +\infty) \cup \{1\} \checkmark \quad (b) \quad (r)$$

$a: 1 \quad r < a < r$

$$y = \frac{1}{|a+1|-1-k} \quad |x-r|-1-k=0 \quad |a+1|-1=k \quad (r) \quad (v)$$

$$|a-r|-1 \geq k \quad |a-r| \geq k+1 \quad a-r \geq k+1 \quad a-r \geq -k-1$$

$$|a-r|-1 = -k \quad |a-r| \geq 1-k \quad a-r \geq 1-k \quad a-r \geq k-1$$

$$\begin{aligned} a &\geq k+r \quad (1) \\ a &\geq -k+1 \quad (2) \\ a &\geq -k+r \quad (3) \\ a &\geq k+1 \quad (4) \end{aligned} \rightarrow \text{مناطق مختلفه در } a \rightarrow k=1 \checkmark$$

$$f(a) = \frac{a^r + \phi a + r}{a^r + \phi a + r} \quad a^r + \phi a + r = 0 \rightarrow (a+1)(a+r) = 0 \quad a = -1, -r$$

$$\frac{a+1}{a-1} \quad a+1 \geq 0 \rightarrow a \geq -1 \quad n=1 \checkmark$$

$$x^r - 4a + 9 = 0 \quad (a-r)^r = 0 \rightarrow a = r$$

$\frac{r}{b} \frac{r}{b} = 1 \checkmark$

$$y = \log_a \log_a^r \quad \boxed{a > 0} \quad \boxed{a \neq 1} \quad (r) \quad (9)$$

$$a+1 > 0 \quad \boxed{a > -1} \quad a+1 \neq 0 \rightarrow \boxed{a \neq -1}$$

$$\log_a^r \frac{r}{a} > 0 \quad -\log_a^r \frac{r}{a} > 0 \quad \log_a^r \frac{r}{a} < 0 \rightarrow -\infty < a < 1$$

$$D_f(a) = [-1, r]$$

$$-\infty < a < r$$

$$g(a) = f(r a^{r-1})$$

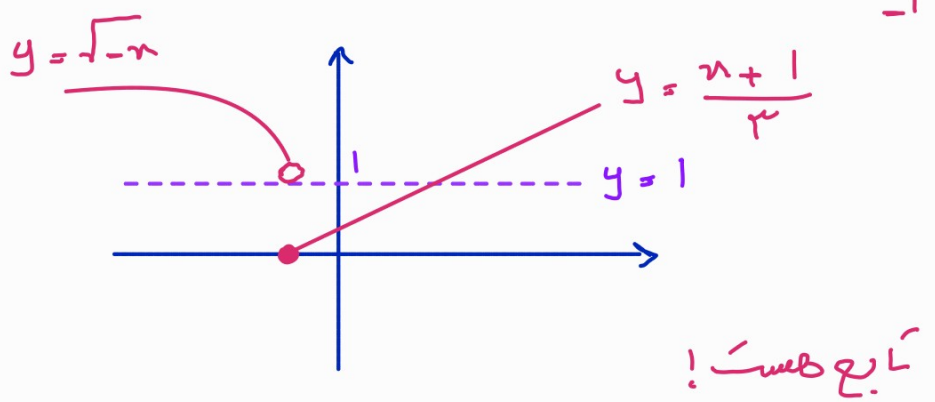
$$-\infty < r a^{r-1} < r$$

$$-r < r a^r < r$$

$$-\frac{r}{r} < a^r < \frac{r}{r} \rightarrow 0 < a^r < \frac{r}{r} \rightarrow |a| < \frac{r}{r} \rightarrow$$

$$a \in \left[-\frac{r}{\sqrt{r}}, \frac{r}{\sqrt{r}}\right] \checkmark$$

$$y = \begin{cases} \frac{n+1}{r} & y \geq 0 \\ \sqrt{-n} & y > 1 \end{cases}$$



$$1) |n| - 1 \neq 0 \rightarrow |n| \neq 1 \rightarrow n \neq \pm 1$$

ب ۵

$$2) |n-2| - n^r \geq 0 \rightarrow \begin{array}{c|c} -n^r - n + 2 \geq 0 & -n^r + n - 2 \geq 0 \\ \frac{-2}{-1} \quad \frac{1}{-} & \Delta < 0 \quad \times \end{array}$$

$$D_f = [-2, 1) - \{-1\}$$