

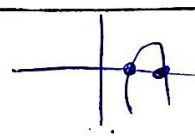
1) $y^r - 2x^r = 2x - 1$ تعیین رابی $y^r = 2x^r + 2x - 1 \rightarrow y_1^r = y_2^r \rightarrow y_1 = y_2$ تابع مست

2) $x \cos y + y \cos x \rightarrow ?$

3) $\frac{x+y}{2} = \sqrt{xy} \rightarrow x+y = 2\sqrt{xy} \rightarrow x^2 + y^2 + 2xy = 4xy \rightarrow x^2 + y^2 = 2xy \rightarrow x^2 + y^2 - 2xy = 0$
 $\rightarrow (x-y)^2 = 0 \rightarrow x-y = 0 \rightarrow x=y \rightarrow$ تابع مست

$\therefore xy^r + 2x - y^r - 2y = 0 \xrightarrow{x=0} -y^r - 2y = 0 \rightarrow -y(y^r + 2) = 0$

4a) $\begin{cases} 2x^2 - b: |n-1| \geq 2 \\ n+2x: -1 \leq n \leq 1 \end{cases} \rightarrow n = -1 \rightarrow 2-b = 0 \rightarrow b = 2$
 $a+b = 4$

$-x^2 - bx + a > 0$ درجه دوم $\leftarrow$ b و a ریشه است 

$a, b = \frac{a}{-1} \rightarrow a, b = -a \rightarrow b = -1$

$-1(x-a)(x-b)$ حاصل $-x^2 - bx + a$ به صورت $b = -1$

$-x^2 - \frac{a}{-1} + (a+b)x \rightarrow -x^2 + a + (a+b)x = -x^2 + x + a$
 $\rightarrow a+b = 1$

1) $|x| - [x] \neq 0 \rightarrow \begin{matrix} x > 0 \text{ و } x \in \mathbb{Z} \rightarrow \times \\ x > 0 \text{ و } x \notin \mathbb{Z} \rightarrow \checkmark \end{matrix}$
 $\boxed{\mathbb{R} - \mathbb{W}} \subseteq \mathbb{R} - \{0, 1, 2, 3, \dots\}$ $x < 0 \rightarrow \checkmark$

2) $\sqrt{x} + \sqrt{y} = 9 \rightarrow 9 - \sqrt{x} = \sqrt{y} \rightarrow x > 0$ ①
 $9 - \sqrt{x} > 0$ ②

$9 > \sqrt{x} \rightarrow 81 > x \rightarrow x < 81$

3) $\sqrt{\log_{x-1} x} \rightarrow \begin{matrix} x-1 > 0 \rightarrow x > 1 \rightarrow x > \frac{1}{x} \text{ ①} \\ x > 0 \text{ ②} \\ x \neq 1 \text{ ③} \end{matrix}$ $\log_{x-1} x > 0 \rightarrow x-1 > 1 \rightarrow x > 2 \rightarrow x > \frac{1}{x} \text{ ④}$

$x > \frac{1}{x} - \{1\}$

$\frac{1}{9 + \sqrt{|a|} - |a|} > 0$ $\rightarrow -(\sqrt{b-3})(\sqrt{t+2})$ $t=9$
 $|a| < 9 \rightarrow -9 < a < 9$

② مثال

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

$$f(x) = \begin{cases} x_{n-1} = [x] > f \\ x_{n+1} = [x] < f \end{cases}$$

$$x \geq \omega \rightarrow y = \sqrt{x_{n-1} - x + 1} = \sqrt{x} \rightarrow x > \omega \rightarrow \checkmark$$

$$x < \omega \rightarrow y = \sqrt{x_{n+1} - x + 1} = \sqrt{x_{n+1} - x + 1} \rightarrow x_{n+1} > -f \rightarrow x \geq -\frac{f}{r}$$

$-\frac{f}{r} \leq x < \omega \rightarrow \text{نطاق } x = [-\frac{f}{r}, +\infty)$

$$y = \frac{r^n x^n + r^n x^n + 1}{(x^n + x_{n+1})} \xrightarrow{\sim} \frac{q(r^n x^n + r^n x^n + 1)}{q(x^n + x_{n+1})} = \frac{(x_{n+1})^n}{q(x_{n+1})^n}$$

$$\rightarrow \frac{r^n (x_{n+1})^n}{q(x_{n+1})^n} = r^n (x_{n+1}) \rightarrow y = x_{n+1}$$

$$D_y = x^n + x_{n+1} \neq 0 \rightarrow (x_{n+1})^n \neq 0 \rightarrow x_{n+1} \neq 0 \rightarrow x \neq -\frac{1}{r}$$

$$D_y = R - \frac{1}{r}$$

$$y = \sqrt{1 - \log(x_{n-1})} \rightarrow x_{n-1} > 0 \rightarrow x_n > 0 \rightarrow x > \frac{a}{r}$$

$$1 - \log(x_{n-1}) > 0 \rightarrow 1 > \log(x_{n-1}) \rightarrow 1 > x_{n-1}$$

$$\rightarrow \frac{1 + a}{r} \geq x$$

$$\rightarrow \frac{a}{r} < x \leq \frac{1 + a}{r}$$

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