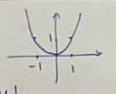


الف

$$\begin{aligned} & \begin{cases} x^2 - y^2 + 2x - 2y = 0 \\ x, y > 0 \end{cases} \Rightarrow \begin{cases} x^2 = y^2 \\ x = y \end{cases} \\ & y^2(x - y) + 2(y - y) = 0 \\ & x + y = 2\sqrt{x}y \\ & (\sqrt{x} - \sqrt{y})^2 = 0 \\ & \sqrt{x} = \sqrt{y}, x, y > 0 \Rightarrow x - y = 0 \Rightarrow x = y \\ & x = y \end{aligned}$$

نیاز به اصل و رسم تابع نیست. تابع هست.

الف

$$\begin{aligned} & |y| + x^2 = 2y \\ & \text{طول ناقص} \Rightarrow \text{طول ناقص} \Rightarrow \text{طول ناقص} \\ & 2y \geq 0 \Rightarrow y \geq 0 \Rightarrow y = |y| \\ & |y| + x^2 = 2y \sim y + x^2 = 2y \\ & \Rightarrow y = x^2 \end{aligned}$$


$$\begin{aligned} & [y] + [x] = 1 \\ & [y] = 1 - [x] \\ & x = 0 \rightarrow [y] = 1 \\ & [y] = 1 \rightarrow 1 \leq y < 2 \\ & \text{برای } x = 0 \text{ بیش از یک بار به تابع نیست} \end{aligned}$$

$$\begin{aligned} & x^2 - b \quad |x - 1| \geq 2 \quad \begin{cases} x - 1 \geq 2 \rightarrow x \geq 3 \\ x - 1 \leq -2 \rightarrow x \leq -1 \end{cases} \\ & a + 2x \quad 0 \leq x \leq 3 \end{aligned}$$

$$\begin{cases} x_1 = x_2 \rightarrow y_1 = y_2 \\ x_1 = x_2 = 3 \rightarrow x^2 - b = a + 2x \Rightarrow 2(3)^2 - b = a + 2(3) \\ 12 - b = a + 6 \\ \checkmark 12 = a + b \end{cases}$$

$$\begin{aligned} & a - bx - x^2 \geq 0 \quad b + a = \frac{-b}{a} \rightarrow ab + a^2 = -b \\ & a \rightarrow a - ba - a^2 = 0 \rightarrow ba + a^2 = 0 \\ & b \rightarrow a - b^2 - b^2 = 0 \rightarrow a = 2b^2 \end{aligned}$$

$$\begin{aligned} & \left. \begin{aligned} & -b = 2b^2 \\ & \Rightarrow b = \frac{-1}{2} \\ & a = 2b^2 \Rightarrow a = \frac{1}{2} \end{aligned} \right\} \end{aligned}$$

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

$$\begin{aligned} & x - a > 0 \rightarrow x > \frac{a}{p} \rightarrow b = \frac{a}{p} \\ & 1 - \log^{(x-a)} \geq 0 \\ & \log^{(x-a)} \leq 1 \rightarrow x - a \leq 1 \rightarrow x \leq \frac{1+a}{p} \rightarrow C = \frac{1+a}{p} \end{aligned}$$

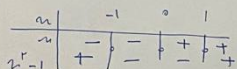
سوال ۵ صفحه بعدی

$a+b=0 \iff a=2 \iff \text{مخانب نامم = 2} \iff \checkmark$ تابع زوج است
 $\Rightarrow b=-2$
 قبل از ۲ مثبت بوده و حالا که دانسته: $(2, +\infty)$

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الف $y = \sqrt{2^x - 2}$

$2^x - 2 \geq 0 \quad 2^x(2^x - 1) \geq 0$



$D_f = [-1, 0] \cup [1, +\infty)$

ب $|2|-1 > 0$

$|2| > 1$

$2 > 1, 2 < -1$

$2 \in (-\infty, -1) \cup (1, +\infty)$

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الف $\sqrt[3]{\frac{1}{|n|-[n]}}$

$|n|-[n] \neq 0 \quad n \in \mathbb{R} \setminus \mathbb{W}$

$|n| \neq [n]$

$\Rightarrow |n| \neq \mathbb{Z} \xrightarrow[\text{تقریباً}]{\text{تقریباً}} |n| \neq \mathbb{W}$

ب $\sqrt{n} + \sqrt{9} = 9$

$\sqrt{9} = 9 - \sqrt{n}$

$9 = 11 - 11\sqrt{n} + n$

$\Rightarrow n \geq 0$

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$[2n - \frac{1}{p}] + [2n + \frac{p}{p}] > 0$

$[2n - \frac{1}{p}] + [2n - \frac{1}{p} + 2] > 0$

$2[2n - \frac{1}{p}] + 2 > 0$

$2[2n - \frac{1}{p}] > -2$

$[2n - \frac{1}{p}] > -1$

$[t] > -1 \Rightarrow t \geq 0$

$[2n - \frac{1}{p}] \geq 0$

$2n \geq \frac{1}{p}$

$n \geq \frac{1}{2}$

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$a2^r + b2^r + c \geq 0 \quad D: (-\infty, 2) \quad b2^r + c \xrightarrow{a=2} 0$

$\hookrightarrow b \cdot 2 \rightarrow a=0$

$2b + c = 0 \rightarrow 2b = -c \rightarrow c = -2b$

$\frac{2a + c - 2|b|}{-2b + 2b} = b$

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