

الف) $y^3 = r^2 + r - 1$
 $y = \sqrt[3]{r^2 + r - 1}$ تابع است ✓

ب) $u \cos y = y \sin u$ ؟

ج) $\frac{u+y}{r} = \sqrt{ny}$ ✓ تابع است $y = 9x$

$(y^2 + r)(u - y) = 0$
 $\Rightarrow u - y = 0 \Rightarrow u = y$ ✓ تابع است

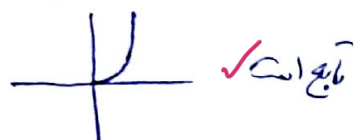
درستی مساری و مشتق این اعداد برابر است واسطه حسابی نیز بررسان و در هر دو

الف) $|y| + u^2 = ry$

ب) $[y] + [r] = 1$

$y_1 = 1$
 $u = 0 \rightarrow y_2 = 1, 5$
 $y_2 = 1, 0$
 $\vdots$

$\begin{cases} u^2 & y > 0 \\ \frac{u^2}{r} & y \leq 0 \end{cases}$



$f(x) = \begin{cases} x^2 - b & x - 1 \geq 2 \rightarrow x \geq 3 \\ a + rx & x - 1 \leq -2 \rightarrow x \leq -1 \end{cases}$

$u = 3 \rightarrow \begin{cases} y_1 = r(3)^2 - b \\ y_2 = a + r(3) \end{cases}$
 $y_1 = y_2 \rightarrow 12 - b = 9 + a \Rightarrow a + b = 12$ ✓

$a + b = ?$ ۱۲

$f(u) = \sqrt{a - bu - u^2}$

$D_f = [b, a] \rightarrow a, b$ تابع $-(u-a)(u-b) = -u^2 + (a+b)u - ab$
 $-ab = a \rightarrow -b = 1 \Rightarrow b = -1$
 $a + b = -b \Rightarrow a - 1 = 1 \Rightarrow a = 2$

$a + b = ?$ $2 + (-1) = 1$ ✓

$y = \frac{r}{\sqrt{ax^2 + bx + c}}$

$b < 0 \rightarrow |b| = -b$

$a = 0$

$rb + c = 0$

$ra + c - |b| = b$ چنانچه $3(0) + c - 3(-b) = c + 3b = c + rb + b = b$ ✓

$$y = \sqrt{\frac{r^2 + r}{n+b}} \cdot a \quad \sqrt{\frac{(a+r)(a+b+r)}{n+b}}$$

$$\begin{aligned} a+r &= 0 & a &= -r \\ n+b &= n-r & b &= -r \end{aligned}$$

$$D = (r, +\infty)$$

نوارده

$$\frac{r}{0}$$

$$b = ? \quad -r \quad \checkmark$$

(r)

9

$$y = \sqrt{n^2 - n}$$

$$y = \frac{1}{|n|-1}$$

$$n^2 - n = n(n-1)(n+1)$$

$$|n|-1 > 0$$

$$|n| > 1$$

$$n > 1$$

$$n < -1$$

$$D = (-\infty, -1) \cup (1, +\infty) \quad \checkmark$$



$$D = [-1, 0] \cup [1, +\infty) \quad \checkmark$$

(r)

9

$$y = \frac{1}{|n| - [n]}$$

$$\sqrt{n} + \sqrt{y} = 9$$

$$|n| - [n] \neq 0$$

$$n \approx 0 + 9$$

$$n \approx 9 + 0$$

$$|n| = [n] \rightarrow n \in \mathbb{Z}^+ \cup \{0\}$$

$$0 \leq n \leq 11$$

$$D_f = \mathbb{R} - \mathbb{Z} \cup \{0\}$$

$$D_f = [0, 11] \quad \checkmark$$

(1, 5)

1

$$y = \frac{1}{\sqrt{[r_n - \frac{1}{r}] + [r_n + \frac{r}{r}]}}$$

$$D_f = [\frac{1}{\varepsilon}, +\infty)$$

$$[r_n - \frac{1}{r}] + [r_n + \frac{r}{r}] > 0$$

$$r[r_n - \frac{1}{r}] + r > 0 \quad [r_n - \frac{1}{r}] > -1 \rightarrow r_n - \frac{1}{r} > 0$$

$$n > \frac{1}{\varepsilon} \quad \checkmark$$

(r)

9

$$y = \sqrt{1 - \log(r_n - a)}$$

$$1 - \log(r_n - a) > 0$$

$$\log(r_n - a) < 1$$

$$D = (b, c]$$

$$r_n - a > 0$$

$$n > \frac{a}{r}$$

$$r_n - a < 10$$

$$n \leq \omega + \frac{a}{r}$$

$$D_f = (\frac{a}{r}, \omega + \frac{a}{r}]$$

$$c - b = ? \quad \omega + \frac{a}{r} - \frac{a}{r} = \omega \quad \checkmark$$

(r)

10

-۱

تابع سین

مثال نقطه (ب) : $x = \frac{\pi}{2} \rightarrow y = \frac{\pi}{2}, \frac{3\pi}{2}$