

الف) $\{(n, y) \in \mathbb{R}^2 \mid y = \sqrt{n}\} \Rightarrow y_1 = \sqrt{n_1} = \sqrt{n_2} = y_2 \Rightarrow y_1 = y_2 \Rightarrow$ تابع نیست ✓

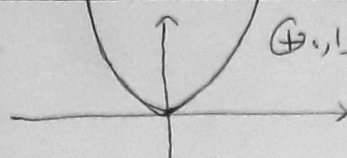
ب) $n = 90 \Rightarrow 90 \cos y = 0 \Rightarrow \cos y = 0 \Rightarrow y \in (\frac{\pi}{2}, \frac{3\pi}{2})$ تابع نیست ✓

ج) $\frac{n+y}{x} = \sqrt{ny} \Rightarrow (\sqrt{n} - \sqrt{y})^2 = 0 \Rightarrow \sqrt{n} = \sqrt{y} \Rightarrow n = y \Rightarrow$ $\{(n, y) \in \mathbb{R}^2 \mid y = \sqrt{n}\} \Rightarrow y_1 = \sqrt{n_1} = \sqrt{n_2} = y_2 \Rightarrow y_1 = y_2 \Rightarrow$ تابع نیست ✓

د) $y^2 + 2y = ny^2 + 2n \Rightarrow n = \frac{y^2 + 2y}{y^2 + 2} \Rightarrow$ $\{(n, y) \in \mathbb{R}^2 \mid n = \frac{y^2 + 2y}{y^2 + 2}\} \Rightarrow y_1 = \frac{y_1^2 + 2y_1}{y_1^2 + 2} = \frac{y_2^2 + 2y_2}{y_2^2 + 2} = y_2 \Rightarrow y_1 = y_2 \Rightarrow$ تابع نیست ✓

الف) $y \geq 0 \Rightarrow y = x^2$

ب) $y < 0 \Rightarrow y = \frac{x^2}{x} \Rightarrow$



ست چپ شعاعه $\Rightarrow y > 0 \Rightarrow y > 0$

شعاعه $y = x^2$ تابع نیست ✓

ب) $n = 0 \Rightarrow y \in [1, 2) \Rightarrow$ تابع نیست ✓

$|n-1| \geq 2 \Rightarrow n-1 \geq 2 \Rightarrow n \geq 3$
 $n-1 \leq -2 \Rightarrow n \leq -1$

$\Rightarrow$

$y = \begin{cases} 2n^2 - b & n \leq -1 \\ a + 2n & -1 < n < 3 \\ 2n^2 - b & n \geq 3 \end{cases}$

$n = 3 \rightarrow a + 6 = 12 - b \Rightarrow a + b = 6$ ✓

$n = a \Rightarrow a - ab = a^2 \xrightarrow{a \neq 0} 1 - b - a = 0 \Rightarrow a + b = 1 \Rightarrow a - 1 = -b$

یکی از ریشه ها $\Rightarrow$ جمع فرایب برابر $\Rightarrow$ است (-1)

$\Rightarrow \Rightarrow b = -1 \Rightarrow a = 2 \Rightarrow a + b = 1$ ✓

$a = 0 \Rightarrow b + c = 0 \xrightarrow{b \neq 0} 2b + c = 0 \Rightarrow c = -2b$ ← b متن است

$\Rightarrow 2a + c - 3|b| = -2b - 3(-b) = b$ ✓

$$n=2 \Rightarrow 2+b=0 \Rightarrow b=-2$$

فرصت را ضریب کند

$$\text{الف) } n^2 - n > 0 \Rightarrow n(n-1) > 0$$

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

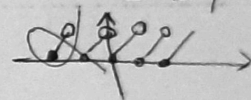
$$\begin{array}{c} -1 \quad 0 \quad 1 \\ - \quad + \quad - \quad + \end{array}$$

$$\text{ب) } |n|-1 > 0 \Rightarrow |n| > 1 \Rightarrow n > 1 \vee n < -1$$

$$\Rightarrow D_f = (-\infty, -1) \cup (1, +\infty)$$

$$\text{الف) } |n| - [n] \neq 0 \Rightarrow |n| \neq [n] \xrightarrow[\text{التناقض انته]{درستیها} *} n \neq [n] \Rightarrow n - [n] \neq 0$$

$$\Rightarrow D_f = \mathbb{R} - \mathbb{Z}^+ - \{0\} \Rightarrow \mathbb{R} - \mathbb{W}$$



$$\text{ب) } \begin{matrix} n > 0 \\ y > 0 \end{matrix} \Rightarrow \sqrt{n} \leq 9 \Rightarrow n \leq 81 \Rightarrow D_f = [0, 81]$$

$$\left[2n - \frac{1}{4}\right] + \left[2n + \frac{1}{4}\right] > 0 \Rightarrow \left[2n + \frac{1}{4}\right] + \left[2n + \frac{1}{4}\right] > 0 \Rightarrow \left[2n + \frac{1}{4}\right] > 0$$

$$\Rightarrow 2n + \frac{1}{4} \geq 1 \Rightarrow 2n \geq \frac{3}{4} \Rightarrow n \geq \frac{3}{8} \Rightarrow D_f = \left[\frac{3}{8}, +\infty\right)$$

$$1 - \log(rn - a) \geq 0 \Rightarrow \log(rn - a) \leq 1 \Rightarrow rn - a \leq 10 \Rightarrow n \leq \frac{a+10}{r}$$

$$rn - a > 0 \Rightarrow n > \frac{a}{r} \Rightarrow D_f = \left(\frac{a}{r}, \frac{a+10}{r}\right] \Rightarrow \begin{cases} b = \frac{a}{r} \\ c = \frac{a}{r} + 10 \end{cases}$$

$$\Rightarrow c - b = 10$$