

الف) تابع هست $y^3 = 2an^2 + 9an - 1 \rightarrow y = \sqrt[3]{2an^2 + 9an - 1}$

ب) $a = \frac{\pi}{4} \rightarrow \frac{\pi}{4} \cos y = y \cos \frac{\pi}{4} \rightarrow \frac{\pi}{4} \cos y = 0 \rightarrow y = \frac{\pi}{4} + k\pi$ تابع نیست

ج) $a + y = 2\sqrt{ay} \rightarrow a - 2\sqrt{ay} + y = 0 \rightarrow (\sqrt{a} - \sqrt{y})^2 = 0 \rightarrow \sqrt{a} = \sqrt{y} \rightarrow a = y$ تابع هست

د) $y^3 - 2y = 0 \rightarrow y(y^2 - 2) = 0 \rightarrow \begin{cases} y = 0 \\ y = \sqrt{2} \end{cases}$ تابع نیست

الف) چون n^2 عددی مثبت می‌باشد در اینجا هم عددی مثبت است پس $ny \gg 0$
 پس $y \geq 0 \rightarrow y > 18 \rightarrow y \approx 18$ $y + n^2 = 2y \rightarrow n^2 = y$ تابع ϕ

ب) $\xrightarrow{n=0} [y] + [0] = 1 \rightarrow [y] = 1 \rightarrow 1 \leq y < 2$ پس تابع نیست.

$|a-1| \geq 2 \rightarrow \begin{cases} a-1 \geq 2 \rightarrow a \geq 3 \\ a-1 \leq -2 \rightarrow a \leq -1 \end{cases}$

$f(x) = \begin{cases} 11-b \\ a+4 \end{cases}$
 $\begin{cases} 11-b = a+4 \\ 11-a = a+b \\ 12 = a+b \end{cases}$

در ط 2 ن را صفر می‌کنند

$a - bm - m^2 = 0$

$\therefore a + b = -b \rightarrow a = -2b$ و $a \cdot b = -a \xrightarrow{+a} b = -1$

$\left. \begin{matrix} b = -1 \\ a = 2 \end{matrix} \right\} \rightarrow 2 - 1 = 1$

$a m^2 + b m + c = 0$ (معادله درجه 2)
 $\xrightarrow{a=0} 0 m^2 + b m + c = 0 \rightarrow b m + c = 0$

$\begin{cases} b = -\epsilon a \\ a = -\frac{b}{\epsilon} \\ c = \epsilon a \end{cases}$

$a m^2 + b m + c = a(m-2)^2 \rightarrow a(m-2)^2 = a m^2 - 4 a m + 4 a$

$4a + c = 4|b| \rightarrow a > 0 \rightarrow b = -\epsilon a \rightarrow b < 0 \rightarrow |b| = -b$

$\rightarrow 4a + \epsilon a + 4b \rightarrow 4a + 4b \rightarrow 4(-\frac{b}{\epsilon}) + 4b \rightarrow -\frac{4b}{\epsilon} + 4b = 4(\frac{\epsilon-1}{\epsilon}b)$

1	$\boxed{\heartsuit} \cdot \frac{1}{1} = \frac{1}{1} - \frac{1}{1+1} = 0$ $\frac{1}{1+1} \leq w \leq 1 \leq 1-w$ $\left(\frac{1}{1+1}, \frac{1}{1} \right)$ $\boxed{\frac{1}{1+1} \leq w} \rightarrow 0 < 1-w$
2	$(\infty + \frac{1}{1}) \leftarrow \frac{1}{1} \leq w \leftarrow \frac{1}{1} \leq w \leftarrow 0 \leq 1-w \leftarrow \text{ممكن}$ $1 - \left[\frac{1}{1} - w \right] \leq 0 < 1 + \left[\frac{1}{1} - w \right] \leftarrow 0 < 1 + \left[\frac{1}{1} - w \right] + \left[\frac{1}{1} - w \right]$ $= \frac{1}{1} \cdot \frac{1}{1} = 1$
3	$[1, \infty] \leftarrow 1 \leq w$ $1 \leq w \leq 1 \rightarrow 1-w = 0$ $w \leq 1 \rightarrow 1-w = 0$ $w \leq 1 \rightarrow 1-w = 0$
4	$(\infty + \frac{1}{1}) \cap (1 - \infty) = \emptyset$ $1 - \frac{1}{1} = 0$ $1 - \frac{1}{1} = 0$
5	$\frac{1}{1} - \frac{1}{1} = 0$ $\frac{1}{1} - \frac{1}{1} = 0$ $\frac{1}{1} - \frac{1}{1} = 0$