

$y = u + [-] \Rightarrow f^{-1}(u) \Rightarrow [y] \text{ و } [u + [-]] \text{ و } [u] \Rightarrow [y] \text{ و } [u] \text{ و } [y - [-]]$
 $[u] \text{ و } y - u \Rightarrow f^{-1}(u) \text{ و } u - \frac{[u]}{r} \Rightarrow \frac{[y]}{r}$
 $f^{-1}(u) \text{ و } u - \frac{[u]}{r} \Rightarrow \frac{[y]}{r}$
 $f(f^{-1}(u)) = f(u - \frac{[u]}{r}) = u - \frac{[u]}{r} + \frac{[u - \frac{[u]}{r}]}{r} = u - \frac{[u]}{r}$

$u = \frac{b}{c} \Rightarrow \frac{a}{c} \Rightarrow \frac{b}{c} \Rightarrow \frac{a}{c} \Rightarrow \frac{b}{c} \Rightarrow \frac{a}{c}$
 $f = f^{-1}$ است یعنی $y = x$

$y = \frac{a}{x} \Rightarrow \frac{a}{x} = -\frac{b}{x} \Rightarrow a + b = 0$
 $x = -\frac{b}{a}$

$f(u) = f^{-1}(u) \Rightarrow f \circ f^{-1}(u) = u \Rightarrow f \circ f^{-1}(a - \sqrt{4}) = a - \sqrt{4}$

$\frac{m a + r}{a + m + r} = u \Rightarrow m a + r = u(a + m + r) \Rightarrow a^2 + r a = u a + u m + u r$
 $\frac{1}{a} + \frac{1}{b} = \frac{a+b}{ab} = \frac{r}{-r} = \left[\frac{1}{r} \right]$

$\frac{a+b}{ab} = \frac{S}{P} = -\frac{b}{\frac{a}{c}} = -\frac{b}{c} = -\frac{r}{r} = 1$

$|r a + d| - |u a - r|$
 $\begin{cases} a > \frac{r}{d} \Rightarrow -r a + d \\ \frac{r}{d} > a > -\frac{d}{r} \Rightarrow r a + d \end{cases}$

$f^{-1}(u) = \frac{u + v}{r}$
 $f^{-1}(u) = \frac{u + v}{r}$

$g(u) = t = r f(r u) - 1 \xrightarrow{g^{-1}} u = g^{-1}(t)$
 $f^{-1} \xrightarrow{f^{-1}} f^{-1}\left(\frac{t+1}{r}\right) = r u$

$g^{-1}(t) = \frac{f^{-1}\left(\frac{t+1}{r}\right)}{r} \rightarrow a = \frac{1}{r}$
 $b = 1$
 $c = r$
 $d = 0$
 $\frac{ac+d}{rb} = \frac{1}{r}$

$D_f, a \geq 0$ $a + \sqrt{a} \leq y$ $y = \sqrt{a}$ $y^2 = a$ $(y-a)^2 \leq a$ $y^2 - 2ya + a^2 \leq a$ $y^2 - 2ya \leq -a^2 + a$
 $D_f [0, \infty)$ $y(y-2a) \leq -a^2 + a$
 $R_f [0, \infty)$ $y = (\sqrt{a} + 1)^2 - 1 \rightarrow \sqrt{a} + 1 = \pm \sqrt{y+1}$ حالت (+) و (-)
 $D_{f^{-1}} [0, \infty)$ $\sqrt{a} = \sqrt{y+1} - 1 \rightarrow a = (\sqrt{y+1} - 1)^2$ چين $a \geq 0$ است

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$\sqrt{a} = \sqrt{y+1} - 1 \rightarrow a = (\sqrt{y+1} - 1)^2$

$f^{-1}(a) = a + 1 + 1 - \sqrt{a+1}$

$a = 1 + \sqrt{a}$ $a \geq 0$ $\sqrt{a} \geq 1$ $a \geq 1$ $\sqrt{a} \geq 1$ $a \geq 1$

یک نقطه

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$f^{-1}(a) > a$ $f(a) = (a^2 + 1)a$ $a > 0 \rightarrow f(a) > 0$
 $a \geq 2 \rightarrow f^{-1}(a) > a$ $f(a) = (a^2 + 1)a$ $a \geq 2 \rightarrow f(a) > a$

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$a \geq 2 \rightarrow f^{-1}(a) > a$ $f(a) = (a^2 + 1)a$ $a \geq 2 \rightarrow f(a) > a$
 $a \geq 2 \rightarrow f^{-1}(a) > a$ $f(a) = (a^2 + 1)a$ $a \geq 2 \rightarrow f(a) > a$

$f^{-1}(a) \leq a$ $f(a) = -a + \sqrt{a+1}$ $(y+1)^2 \leq a+1$ $y^2 + 2y + 1 \leq a+1$ $y^2 + 2y \leq a$ $a^2 + 2a(1-y) - 1 \leq 0$ $a^2 + 2a(1-y) - 1 \leq 0$

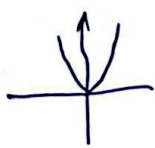
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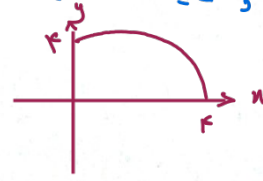
$\sqrt{f(a)} = \sqrt{a} - \sqrt{a}$
 $f(a) = (1 - \sqrt{a})^2 \leq a$ $f(a) = (1 - \sqrt{a})^2 \leq a$ $f(a) = (1 - \sqrt{a})^2 \leq a$ $f(a) = (1 - \sqrt{a})^2 \leq a$

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$\sqrt{y} = -\sqrt{a} + 1$ $y \geq 0$ $\sqrt{a} \leq 1 \rightarrow a \leq 1$ $a \geq 0$



$I \cap II \rightarrow D_f = R_f \rightarrow f(a) = f^{-1}(a)$

$f \circ f^{-1}(a) = f \circ f^{-1}(a) = a$



$$\phi \circ \phi^{-1}(n) = n \rightarrow n \in D\phi^{-1} = R\phi \rightarrow n = 2n - \frac{3}{2} \rightarrow \text{سوال! قمت ب}$$

$$n = \frac{3}{2} \rightarrow \frac{3}{2} \notin R\phi \quad \text{چون تابع } \phi \text{ از هر عدد زوج تا عدد فرد بعدی است}$$

معادله جواب معینی ندارد

$$f(n) \xrightarrow[\text{نیاز } n]{\text{قرینه نسبت}} f^{-1}(n) \xrightarrow[\text{چپ}]{\text{کاف}} f^{-1}(n+1) \rightarrow g(n) = f^{-1}(n+1)$$

سوال 9

$$g(n) = n - 1 \rightarrow f^{-1}(n+1) = n - 1 \xrightarrow[\phi \text{ مرکب}]{\text{از دو طرف}} n+1 = f(n-1)$$

$$-n + 3 + \sqrt{n+1} = n+1 \rightarrow 2n+1 = \sqrt{n+1} \rightarrow \begin{cases} n \geq 0 \end{cases} \checkmark$$

$$\hookrightarrow 4n^2 + 4n + 1 = n + 1$$

$$4n^2 + 4n = 0$$

غذای
جواب راسخال مفتی