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$$f^{-1} \circ f = u \quad f \circ f^{-1} = u$$

$$x + [n] = u \quad [n] = 0$$

①

(الف) سید سید سید سید

$$f \circ f^{-1}(n) = 2n - \frac{3}{2} \quad x = \frac{3}{2}$$

(ب)

$$f(n) = f^{-1}(n) \Rightarrow a+b=0 \quad \text{جانب قائم = جانب افقی}$$

②

$$f \circ f^{-1}(5 - \sqrt{4}) = \underbrace{f \circ f^{-1}}_n(5 - \sqrt{4}) = 5 - \sqrt{4}$$

$$\frac{mx + 3}{x + m + 3} = x \rightarrow mx + 3 = x^2 + x(m + 3) + 3x$$

$$x^2 + 2x - 3 = 0 \quad \Delta = 2^2 - 4 \cdot (-3) = 16$$

$$\frac{1}{a} + \frac{1}{b} = \frac{a+b}{ab} = \frac{\Delta}{p} = \frac{-3}{-3} = +1$$

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$$f(n) = \sqrt{(2n+5)^2} - \sqrt{(5n-2)^2} \quad (4)$$

$$f(n) = \underbrace{|2n+5|}_{\substack{\downarrow \\ -5/4}} - \underbrace{|5n-2|}_{\substack{\downarrow \\ 5/4}} \quad \text{بازه تردی} \quad n \geq 5/4$$

$$f(n) = 2n+5 - 5n+2 = -3n+7 \quad y-v = -\frac{3}{n}$$

$$f(n) = -3n+7 \quad f^{-1}(n) = \frac{-n+7}{3}$$

$$g(n) = 3f(2n) - 1 \quad g(n) + 1 = 3f(2n) \quad (5)$$

$$f(2n) = \frac{g(n)+1}{3} \quad f^{-1} = 2n = f^{-1}\left(\frac{g(n)+1}{3}\right) \Rightarrow n = \frac{1}{3} f^{-1}\left(\frac{g(n)+1}{3}\right)$$

پس $g^{-1}(n) = \frac{1}{3} f^{-1}\left(\frac{n+1}{3}\right) \rightsquigarrow a = \frac{1}{3} \quad b = 1 \quad c = 2$
 $d = 0$

$$\frac{\frac{1}{3} + 0}{-2} = \left(\frac{1}{3}\right) \quad \frac{an+d}{ab} = \frac{1}{3}$$

جسم که درخش روشنی خود گرفت
 که در خط آشفته کوثر گرفت



$$f(n) = n + \sqrt{n} + 1 - 1 \quad (\sqrt{n} + 1)^2 - 1$$

$$y = (\sqrt{n} + 1)^2 - 1 \quad y + 1 = (\sqrt{n} + 1)^2$$

$$R = (-\infty, +\infty)$$

$$\sqrt{y+1} - 1 = \sqrt{n} \quad \text{باز} \quad y = (\sqrt{n+1} - 1)^2 \quad D = [0, +\infty)$$

$$y = n - 1 + 2^k \xrightarrow{n \text{ عدد}} n = n - 1 + 2^k$$

$$2^k \geq 1 \quad n = 0 \quad \text{نیم به نصف}$$

$$f(n) = n^3 + \varepsilon n \quad f^{-1}(n) = n \gg$$

$$f^{-1}(n) \geq n \quad \text{برای } f(n) \quad n \geq f(n)$$

$$n^3 + \varepsilon n \leq n \quad n^3 + 3n \leq n \quad n(n^2 + 3) \leq 0$$

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$$\sqrt{y} \leq r - \sqrt{x}$$

$$y = (r - \sqrt{x})^2 \rightarrow f(f(x)) = (r - \sqrt{r - \sqrt{x}})^2$$

$$= (r - |r - \sqrt{x}|)^2 = (\sqrt{x})^2 = \underline{x} = y$$

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