

$$12a - 20 \leq a^3 - 4 \rightarrow a^3 - 12a - 14 \geq 0 \quad (1)$$

$$(a-2)^2(a+4) \geq 0 \Rightarrow [-4, +\infty)$$

$$F^{-1}(n) \Leftrightarrow n = 3y + k \rightarrow 3y = -k + n \quad (2)$$

$$y = \frac{n-k}{3} \xrightarrow{n=2} k=10$$

$$f(v) = 21 - 10 = 11$$

$$f \circ f = 2(3n - 10) - 10 = 6n - 30$$

$$2a = \frac{a^2}{a-1} \rightarrow 2a^2 - 2a = a^2 \quad (3)$$

$$a^2 - 2a = 0$$

$$a(a-2) = 0 \rightarrow a = 0 \times$$

$$\rightarrow a = 2 \checkmark$$

$$f \circ f^{-1} \{ (0,0) (1,1) (2,2) (4,4) \} \quad (4)$$

$$f^{-1} \circ f \{ (3,3) (4,4) (5,5) (9,9) \} \quad (5)$$

$$f \circ g^{-1} \{ (2,4) (4,4) \}$$

$$g^{-1} \circ f \{ (3,9) (5,3) (9,9) \}$$

$$F \circ g^{-1} = \{(1, 4), (3, 1), (5, 0)\}$$

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$$h = \{(1, 2), (3, 4), (4, 1), (5, 1)\}$$

$$\frac{h}{F \circ g^{-1}} = \{(1, \frac{2}{4}), (3, \frac{4}{1})\}$$

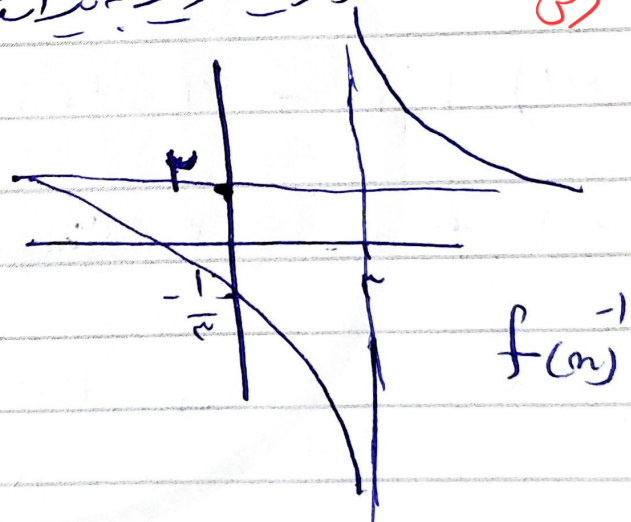
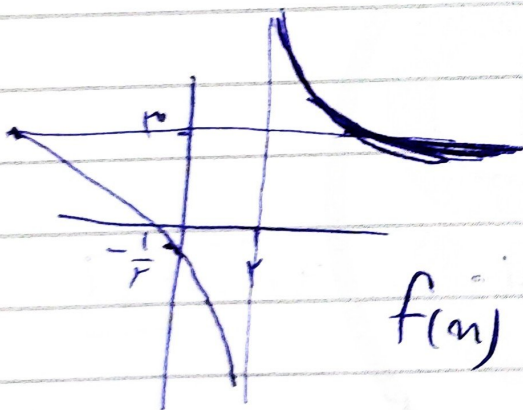
$$y = \frac{3x+1}{x-2}$$

$$\frac{ax+b}{cx+d} \Rightarrow ad \neq bc$$

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هرگز نیست و یک به یک است.

(۵)



$$f(x)^{-1} = y = \frac{3x-1}{x-3}$$

$$[a, b] = [1, 2]$$

$$\begin{cases} 3a+b = 2 \\ a+b = -2 \end{cases}$$

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(۵)

$$2a = 4 \quad a = 2 \quad b = 4$$

$$y = 3x - 1 \quad x = 3y - 1$$

$$y = \frac{x+1}{2}$$

$$y = n^3 + \varepsilon$$

$$n^3 = y - \varepsilon$$

$$n = \sqrt[3]{y - \varepsilon}$$

$$y = \sqrt[3]{n - \varepsilon}$$

$$D = [0, +\infty)$$

$$y = \varepsilon n - 1$$

$$\varepsilon n = y + 1$$

$$n = \frac{y+1}{\varepsilon}$$

$$y = \frac{n+1}{\varepsilon}$$

$$D = (-\infty, -1]$$

$$f(n) = \frac{r n + 1}{-r - n}$$

$$f^{-1}(y)$$

$$n = \frac{-r y + 1}{-r + y}$$

$$y = \frac{r n + 1}{-n - r}$$

$$a = -r$$

$$b = -r$$

$$d = r$$

$$\frac{a n + b}{r n + d}$$

$$\frac{-r n - r}{r n + r}$$

$$F^{-1}(r) = \frac{1}{r} \Rightarrow$$

$$f(n) = \frac{n}{n^2 + 1}$$

$$\rightarrow n = \frac{y}{y^2 + 1}$$

$$\rightarrow n y^2 + n = y$$

$$y^2 n - y + n = 0$$

$$f^{-1}(y) = \frac{1 \pm \sqrt{1 - \varepsilon n^2}}{r n}$$

$$\Delta = 1 - \varepsilon n^2$$

$$D = \left[-\frac{1}{r}, \frac{1}{r}\right] - \{0\}$$

$$y = \frac{1 \pm \sqrt{1 - \varepsilon n^2}}{r n}$$

$$\frac{-\frac{1}{r}}{-\phi + \phi} \quad \frac{\frac{1}{r}}{\phi + \phi}$$