

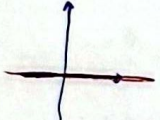
$x^3 + a < x \Rightarrow 12a - 2 \leq a^3 - f \Rightarrow a^3 - 12a + 12 > 0 \Rightarrow (a-2)(a^2+2a-1) > 0$
 $\Rightarrow (a-2)^2(a+1) > 0$
 $a+1 > 0$
 $a > -1 \Rightarrow [-1, \infty)$

$F^{-1}(f) = f \Rightarrow F \circ (F^{-1}) = F(f) = 3(f) + k = 2 \Rightarrow k = -1$

$F(v) = 3(v) - 1 = 21 - 1 = 20$

$3(3n+k) + k = 9n + 3k + k = 9n + 4k = 7n - f$

$F^{-1}(2a) = a \Rightarrow F(a) = 2a \Rightarrow F(a) = \frac{a(a)}{a-1} \Rightarrow \frac{a^2}{a-1} = 2a \Rightarrow 2a^2 - 2a = a^2 \Rightarrow a^2 - 2a = 0$
 $a(a-2) = 0$
 $a = 0$ or $a = 2$

$\frac{a(n)}{n-1} = \frac{a}{n-1} \Rightarrow$ 
 غنق


$F^{-1} \quad F$
 $5 \rightarrow 3 \rightarrow 5$
 $v \rightarrow f \rightarrow v$
 $r \rightarrow v \rightarrow r$
 $g \rightarrow 9 \rightarrow g$
 $\{ (5,5), (v,v), (r,r), (g,g) \}$
 $F \circ F^{-1}$

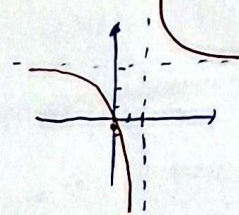
$F \quad F^{-1}$
 $3 \rightarrow 5 \rightarrow 3$
 $f \rightarrow v \rightarrow f$
 $v \rightarrow r \rightarrow v$
 $9 \rightarrow g \rightarrow 9$
 $\{ (3,3), (f,f), (v,v), (r,r), (g,g) \}$
 $F \circ F$

$g^{-1} \quad f$
 $2 \rightarrow 3 \rightarrow 5$
 $g \rightarrow 9 \rightarrow g$
 $\{ (2,5), (5,2) \}$
 $f \circ g^{-1}$

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

$g^{-1} \quad f$
 $1 \rightarrow 2 \rightarrow 3$
 $3 \rightarrow 4 \rightarrow 8$
 $8 \rightarrow 6 \rightarrow 2$
 غنق
 از هر دو طرف ضرب کرد

$n(x) = f$
 $\Rightarrow \frac{h'(x)}{f \circ g^{-1}} = \frac{f}{f} \Rightarrow \frac{h'(x)}{f \circ g^{-1}} = \frac{1}{1} \Rightarrow \frac{1}{f} = \frac{1}{f} \Rightarrow \frac{h}{f \circ g^{-1}} = \left\{ (1,1), (3,3) \right\}$



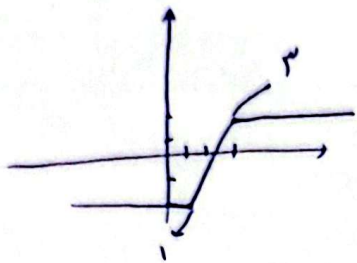
$\frac{3(0)+1}{0-2} = \frac{1}{-2}$

جانب انتی: $3 \leq x < 4$

جانب تامه: $x = 2$

$x \leq \frac{3y+1}{y-2} \Rightarrow xy - 2x \leq 3y+1$

$xy - 3y \leq 2x+1 \Rightarrow y \leq \frac{2x+1}{x-3}$



$\Rightarrow [a, B] \Rightarrow \beta \in \mathbb{R}$ as 1

(1/10)

$$f(n), n-1+x-y \leq ym-f$$

$$\Rightarrow n+y-f \Rightarrow n-f+y \Rightarrow \frac{n-f}{y} \Rightarrow \frac{n}{y} - \frac{f}{y}$$

$$F(n) \leq \frac{n}{y} - \frac{f}{y} \quad \frac{2}{y} + \frac{1}{y} \leq n \leq \frac{2}{y} + \frac{1}{y}$$

$$\left. \begin{array}{l} n \geq 1; \lambda \geq 1 \Rightarrow \lambda = [\omega, +\infty) \\ f(n-1); n \leq 0 \Rightarrow \lambda = [-1, -\infty) \end{array} \right\} \text{یک به یک است}$$

$$\left. \begin{array}{l} 0 \leq f(n) \Rightarrow y \leq n-f \Rightarrow y \leq \sqrt{n-f} \quad n \geq 0 \\ f(n-1) \leq n \Rightarrow f(n) \leq n+1 \Rightarrow y \leq \frac{n+1}{f} \quad n \leq -1 \end{array} \right\} \wedge$$

$$n \leq 0 \Rightarrow \frac{y^2 + 1 + y^2 y^2 y}{y^2 y^2} = \frac{y^2 + y^2 y^2 - y^2 - y^2 y^2 - y^2 y^2 - 1}{y^2 y^2} = \frac{-y^2 y^2 - 1}{y^2 y^2} = \frac{-y^2 y^2 - 1}{y^2 y^2} = n \Rightarrow n y + y^2 n^2 = -y^2 y^2 - 1$$

$$F'(r) = \frac{-y(-r)-r}{y(-r)+y} = \frac{r}{-r+y}$$

$$\begin{array}{l} a = -y \\ b = -r \\ d = y \end{array}$$

$$\begin{array}{l} y(n+y) = y^2 n - 1 \\ y \cdot \frac{y^2 n - 1}{n+y} = \frac{a n + b}{r n + d} \end{array}$$

(2) - 9

$$F\left(\frac{1}{r}\right) = \frac{\frac{1}{r}}{\frac{1}{r}+1} = \frac{\frac{1}{r}}{\frac{1+r}{r}} = \frac{1}{1+r} \Rightarrow \frac{1}{1+r} = \frac{1}{1+r}$$

$$F(r) = \frac{r}{r+1} = \frac{1}{1+\frac{1}{r}}$$

یک به یک است معکوس ندارد

$$y = \frac{1 \pm \sqrt{1-r^2}}{r^2} \xrightarrow{\text{معرّف } y, a} f^{-1}(u) = \frac{1 + \sqrt{1-r^2}}{r^2} \quad |u| \leq \frac{1}{r}$$

(3) - 1.