

$$x^3 - \varepsilon = 12x - 2$$

$$x^3 - 12x + 2 = 0$$

$$x = 12y - 2$$

$$12y, x = 2$$

الضلع الأول

$$12 - 2\varepsilon + 2 = 0$$

$$x = 2$$

$$f(x) = \begin{cases} x^3 - \varepsilon & x > a \\ 12x - 2 & x \leq a \end{cases}$$

$$x^3 - \varepsilon > a^3 - \varepsilon$$

$$12x - 2 < 12a - 2$$

$$12a - 2 \leq a^3 - \varepsilon \Rightarrow a^3 - 12a + 2 \geq \varepsilon$$

$$0 \leq (a-2)^2(a+2)$$

$$- \frac{\varepsilon}{12} \leq a$$

$$a^3 - 12a + 2 = (a-2)^2(a+2) = (a-2)^2(a+2)$$

$$a = [-\varepsilon + \infty)$$

$$f^{-1}(x) = \varepsilon \Rightarrow f(x) = 2$$

$$f(x) = 12x - 2 \Rightarrow K = -1 \Rightarrow f(x) = 12x - 1$$

$$f(1) = 12 - 1 = 11$$

$$f(f(x)) = 12(12x - 1) - 1 = 144x - 13 = 144x - \varepsilon$$

$$144x - \varepsilon$$

$$f(x) = \frac{ax}{x-1} \Rightarrow f^{-1}(x) \Rightarrow$$

$$x = \frac{ay+0}{y-1} \Rightarrow y = \frac{x}{x-a} \Rightarrow y = \frac{x}{x-a} \Rightarrow a = \frac{ya}{ya-a} = 2$$

$$a = 2$$

$$f(x) = \{(4, 9), (1, 1), (1, 8), (9, 1)\}$$

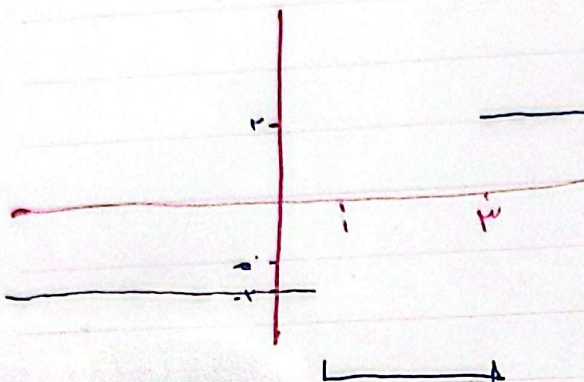
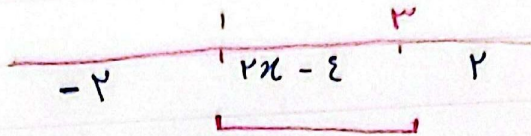
$$f(x) = \{(4, 9), (1, 1), (1, 8), (9, 1)\}$$

$$g(x) = \{(4, 9), (1, 1), (9, 1)\}$$

$$g(x) = \{(4, 9), (1, 1), (9, 1)\}$$

dotnote

$$f(x) = |x-1| - |x-3|$$



د بازه ۳ تا ۱

$$[a, b] = [1, 3]$$

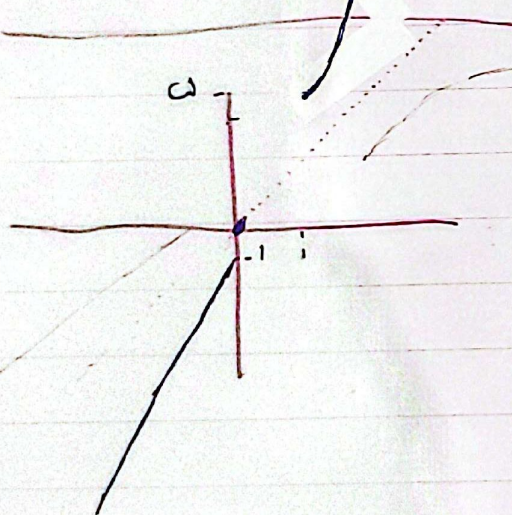
$$y = x - 1 - x + 3 = 2x - 4$$

$$x = \frac{y+4}{2}$$

$$2y = x + 4$$

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

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



دارون باز است زیرا هیچ خط افقی ۲ نقطه

دا همزمان قطع نمی کند.

$$f(x) = x^3 + 1 \quad : x \geq 1$$

$$f^{-1}(x) = \sqrt[3]{x-1} \quad ; x \geq 0$$

$$\frac{x+1}{2} \quad ; x \leq -1$$

$$x = y^3 + 1$$

$$y = \sqrt[3]{x-1}$$

$$x = 2y - 1$$

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

$$y = \sqrt[3]{x-1}$$

$$x \geq 0$$

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

$$x \leq -1$$

dotnote

$$f'(x)y = \frac{ax+b}{rx+a}$$

$$x = \frac{ay+b}{vy+d} \Rightarrow y = \frac{-xd+b}{xr-a}$$

$$\frac{b-xd}{rx-a} = \frac{x^r + wx^r - (x+1)^r}{x+w}$$

$$x^r + wx^r - x^r - 1 = (wx(x+1) - wx^r - 1 - wx^r - wx^r = -wx^r - 1$$

$$\frac{b-xd}{rx-a} = \frac{-wx^r - 1}{x+w} = \frac{-wx^r - 1}{rx+a} \Rightarrow a = -4v$$

$$b = -rv$$

$$f(-x) = \frac{(-4x-r) - r}{-3+4} = \frac{10}{r} = \textcircled{0}$$

$$\textcircled{0}$$

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

$$x = \frac{y}{y+1} \Rightarrow x(y+1) = y$$

$$xy - y + x = 0$$

$$\Delta L \quad \frac{C}{a} = 1$$

$$y = \frac{1 \pm \sqrt{1-32x}}{rx}$$

$$D \neq R \quad R^{-1} = 19$$

$$D^{-1} = [-1, 0, 0, 0]$$

$$x^r d = y = \frac{1 + \sqrt{1-32x}}{rx}$$