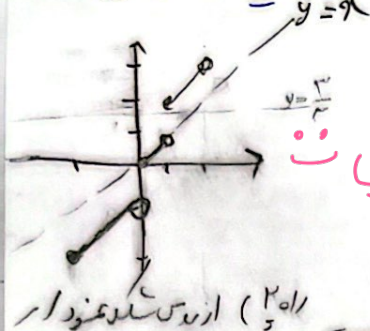


تلف بخار

بنام خدا

دوازدهم دخت



$$y = x + [x]$$

19 صد قدس

تابع الیقا معده است به تابع $y=x$ (کن همسر را در کنار) و تابع اول قطع می کنند.

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

(الف)

$$f(x) = x \Rightarrow x + [x] = x \Rightarrow$$

$$[x] = 0$$

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

$$x \in D_{f^{-1}} \Rightarrow x = \frac{3}{2}$$

$$x \in R_f$$

محاطه جوابدار زیر اجواب به است اگر در بر تابع نه باشد

$$y = \frac{ax+b}{cx+d} \Rightarrow \frac{ax+b}{cx+d} = \frac{-b}{c} \Rightarrow a = -b$$

چون a و b قرینه شده پس معکوس تابع: هنوز تابع برابر است لذا $f(x) = f^{-1}(x)$

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

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

$$f(x) = \frac{mx+n}{x+m+p} \Rightarrow ad \neq bc \Rightarrow m^2 + m \neq 1 \Rightarrow$$

$$\frac{mx+n}{x+m+p} = y \Rightarrow x = -\frac{(m+p)y - n}{y-m} \Rightarrow x = \frac{-(m+p)y + n}{y-m} \Rightarrow f^{-1}(x) = \frac{-(m+p)x + n}{x-m}$$

$$\frac{mx+n}{x+m+p} = \frac{-(m+p)x + n}{x-m} \Rightarrow mx^2 - m^2x + \frac{n}{x} - \frac{1}{x}m = (-m-p)x^2 + (-m-p)(m+p)x$$

$$mx^2 - m^2x - \frac{1}{x}m = -mx^2 - px^2 - mx - 4mx - 9x + 3m + 9$$

$$(2m+3)x^2 - 4m - (4m+9)x - 9 \Rightarrow (2m+3)x^2 - (4m+9)x - 9 - 4m = 0$$

$$\frac{1}{a} + \frac{1}{b} = \frac{a+b}{ab} = \frac{-b}{a} = \frac{4m+9}{-4m-9} = (-1)$$

$$\frac{mx+n}{x+m+p} = x \Rightarrow mx+n = x^2 + mx + px \Rightarrow x^2 - px + n = 0$$

$$\frac{S}{p} = -\frac{b}{c} = (-1)$$

$$F(x) = \sqrt{(x+1)^2} - \sqrt{(x-1)^2} = F(x) = (x+1) - (x-1) \quad (F)$$

$$Df^{-1} \subset R_f = (-\infty, \frac{1}{2}]$$

$$\begin{array}{c} \frac{-1}{2} \quad \frac{1}{2} \\ \hline -x-1+x-1 \quad | \quad x+1 \quad | \quad x+1-x+1 \\ \hline -2 \quad | \quad x+1 \quad | \quad -x+1 \\ \hline \end{array}$$

$$F^{-1}(y) \Rightarrow f(x) = -x+1 \Rightarrow y = -x+1 \quad x \in [\frac{1}{2}, +\infty)$$

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

$$g(x) = f(f(x)) - 1 = t \Rightarrow f(f(x)) = t+1 \Rightarrow f^{-1}(t+1) = x \Rightarrow x = f^{-1}(\frac{t+1}{2}) \quad (a)$$

$$g'(x) = a f^{-1}(\frac{x+b}{c}) + d \quad g(x) = t \Rightarrow g^{-1}(t) = x \Rightarrow g^{-1}(t) = f^{-1}(\frac{t+1}{2}) \Rightarrow$$

$$\frac{ac+d}{2b} = ?$$

$$\frac{2(\frac{1}{2})+0}{2} = \left(\frac{1}{2}\right)$$

$$g^{-1}(x) = f^{-1}(\frac{x+1}{2}) \Rightarrow a = \frac{1}{2}$$

$$b = 1$$

$$c = 2$$

$$d = 0$$

مشتق در $x=0$

$$F(x) = y = x + \sqrt{x+1} - 1 = (\sqrt{x+1})^2 - 1 \Rightarrow y+1 = (\sqrt{x+1})^2 \Rightarrow \sqrt{x+1} = \frac{1}{2}\sqrt{y+1}$$

$$\Rightarrow \sqrt{x+1} = \sqrt{y+1} \Rightarrow \sqrt{x} = \sqrt{y+1} - 1 \Rightarrow x = (\sqrt{y+1} - 1)^2 \Rightarrow F^{-1}(y) = (\sqrt{y+1} - 1)^2$$

$$Df^{-1} \subset R_f = [0, +\infty)$$

$$Df^{-1}(x) = [-1, +\infty)$$

$$x \geq 0$$

$$y = x - 1 + 2 \Rightarrow x = y + 1 \Rightarrow x = 0$$

$$x = x - 1 + 2 \Rightarrow x = 1 \Rightarrow x = 0$$

در $x=0$ مشتق

