

~~$$y = \frac{x-1}{y} \rightarrow x=0 \rightarrow y = \frac{-1}{y} \rightarrow y=0 \rightarrow x = \frac{1}{y}$$~~

$$\Rightarrow S_{\text{cell}} = \frac{1}{r} \times \frac{1}{r} \times \frac{1}{r} = \frac{1}{1r}$$

c) $u_3 = \frac{y}{p} = 1 \rightarrow y_3 = y \rightarrow Df = Rf^{-1} = [1, +\infty)$, $Rf = Df^{-1} = [y, +\infty)$ $\textcircled{f}$

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

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

فجر یوم شنبه

نکتہ چہاں تواریخ درم درجین شمال سمہ مستندہ دلفان بعد از اُس صحت ہیں سیدو یک می باشد
این تاریخ نیز یک سید است ولی با دلفان متعلق است:

$$x_5 = 1 \rightarrow x = 2 \Rightarrow y = 4 \Rightarrow R_f = P_f^{-1} = [4, +\infty)$$

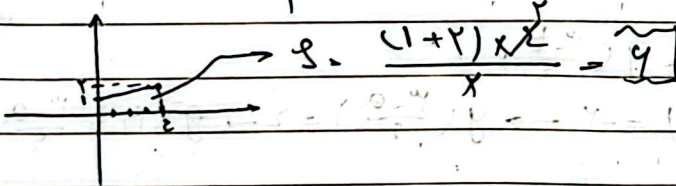
$$\Rightarrow f^{-1}(x) = \sqrt{x-2} + 1 = y \quad (x \in [4, +\infty))$$

$$f(x) = 2x - \sqrt{1 + 4x^2} - 14x = 2x - \sqrt{(2x-2)^2} = 2x - |2x-2|$$

$$\Rightarrow f(x) = \begin{cases} x - x + 2 = 2 & ; x > 2 \\ x + x - 2 = 2x - 2 & ; x \leq 2 \end{cases}$$

$$u \leq v \rightarrow f u \leq f v \rightarrow f u - f \leq \epsilon \Rightarrow Rf = (-\infty, f]$$

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



(۴) از تمام مردم در میان رتبه گرفتند ۴ و هم علامتند

Handwritten musical notation on a five-line staff, featuring various notes, rests, and bar lines. The notation is dense and appears to be a complex piece of music.

$$= \frac{1}{2} \ln \frac{xy + yz}{x^2} = \frac{1}{2} \ln \frac{y}{x} = \frac{1}{2} \ln y - \frac{1}{2} \ln x$$

$$\frac{x_1}{\sqrt{x_1^2 - \omega}} = \frac{x_Y}{\sqrt{x_Y^2 - \omega}} \xrightarrow{\text{Cross-multiplication}} \frac{x_1^2}{x_1^2 - \omega} = \frac{x_Y^2}{x_Y^2 - \omega} \rightarrow x_1^2 x_Y^2 - \omega x_1^2 = x_1^2 x_Y^2 - \omega x_Y^2 \rightarrow x_1^2 = x_Y^2 \rightarrow x_1 = x_Y$$

(نمبر : ۱ و ۲ ص ۳۴ علامہ، از این روایت درستی کو اندر تمام کتب معتبره با سندین تابع یکدیگر است)

$$y = \frac{x}{\sqrt{x^2-5}} \rightarrow y^2 = \frac{x^2}{x^2-5} \rightarrow x^2 y^2 - 5y^2 = x^2 \rightarrow x^2 y^2 - x^2 = 5y^2$$

$$\rightarrow x^2(y^2-1) = 5y^2 \rightarrow x^2 = \frac{5y^2}{y^2-1} \xrightarrow{\sqrt{\cdot}} x = \frac{\sqrt{5}y}{\sqrt{y^2-1}}$$

⑤ برای اینکه نمودار درجه دوم، کوادراتیک باشد باید که ضرایب آن به شکل ax^2+bx+c باشد.

$$g(2) = -4 + k \Rightarrow g(2^-) < g(2) \rightarrow 1 + 3k < -4 + k \rightarrow -4 > 2k$$

در صورتی که x در $[-5, 2]$ باشد

$$f(x) = \begin{cases} x; & x \geq 0 \\ x^2; & x < 0 \end{cases} \rightarrow x \geq 0 \rightarrow f(x) = x \rightarrow f^{-1}(x) = \begin{cases} x; & x \geq 0 \\ \sqrt{x}; & x < 0 \end{cases}$$

$$\begin{aligned} x \geq 0 &\rightarrow ax + bx = x(a+b) \\ x < 0 &\rightarrow ax - bx = x(a-b) \end{aligned} \rightarrow \begin{cases} a+b = \frac{1}{x} \\ a-b = \frac{1}{x} \end{cases} \Rightarrow a = \frac{2}{x}, b = \frac{1}{x}$$

$$\Rightarrow ab = \frac{2}{x^2}$$

$$f(x) = \frac{10}{m+x} = -10 \rightarrow m+x = -1 \rightarrow m = -3$$

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

$$f^{-1}(x) + x = \frac{3x+2}{x-3} + x = x \Rightarrow \frac{3x+2}{x-3} = 0 \Rightarrow \boxed{x = -\frac{2}{3}}$$

$$f(3-2x) = 2 - g\left(\frac{x}{2}\right)$$

$$3-2x = t \rightarrow x = \frac{3-t}{2} \rightarrow f(t) = 2 - g\left(\frac{3-t}{2}\right)$$

$$f^{-1}(-2) = a \rightarrow f(a) = 2 - g\left(\frac{3-a}{2}\right) = -2 \rightarrow g\left(\frac{3-a}{2}\right) = 4 \rightarrow g^{-1}(4) = \frac{3-a}{2}$$

$$\rightarrow f^{-1}(-2) + f(2) = a + 3 - a = 3$$

$$\frac{x \rightarrow -x}{y \rightarrow -y} \Rightarrow \frac{-\Delta x + 1^r}{x+1} = -y \Rightarrow \frac{\Delta x + 1^r}{x+1} = y \quad (9)$$

$$x \rightarrow x-r \Rightarrow \frac{\Delta(x-r) + 1^r}{x-r+1} = \frac{\Delta x + r}{x-1}, y \rightarrow y-r \Rightarrow \frac{\Delta x + r}{x-1} - r = \frac{\Delta x + r - r(x-r)}{x-1}$$

$$\Rightarrow f(x) = \frac{rx+y}{x-1} \Rightarrow f^{-1}(x) = \frac{x+y}{x-r}, f(x) = f^{-1}(x) \Rightarrow \frac{rx+y}{x-1} = \frac{x+y}{x-r}$$

$$x \neq 1, r \Rightarrow x^r + \Delta x - y = rx^r + rx - 1^r \Rightarrow x^r - rx - y = - \Rightarrow \boxed{y = x^r}$$

$$f(x) = y = x + f[x] \Rightarrow [y] = [x + f[x]] \Rightarrow [y] = \Delta[x] \Rightarrow \frac{[y]}{\Delta} = [x] \quad (10)$$

$$\Rightarrow y = \frac{f[y]}{\Delta} + x \Rightarrow y - \frac{f[y]}{\Delta} = x \Rightarrow g(x) = x - \frac{f}{\Delta}[x]$$

$$(f - g)(x) = x + f[x] - x + \frac{f}{\Delta}[x] = \boxed{\frac{f}{\Delta}[x]}$$