

$$f = \{(1,1), (1,2), (4,0)\} \quad g = \{(1,1), (1,2), (4,0)\} \quad (a)$$

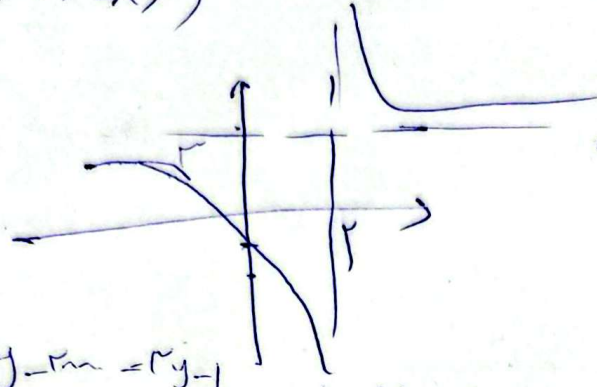
$$h = \{(1,1), (1,2), (1,1), (0,1)\} \quad \frac{u}{f \circ g^{-1}} = ? \quad g^{-1}\{(1,1), (1,2), (0,1)\}$$

$$f(g) = 1 \rightarrow 1 \rightarrow 1 \rightarrow 1 \rightarrow 1 \rightarrow 1$$

$$f(g^{-1}) = \{(1,1), (1,2), (0,0)\}$$

$$\frac{u}{f \circ g^{-1}} = \{(1,1), (1,2)\}$$

$$g = \frac{m+1}{n-1}$$

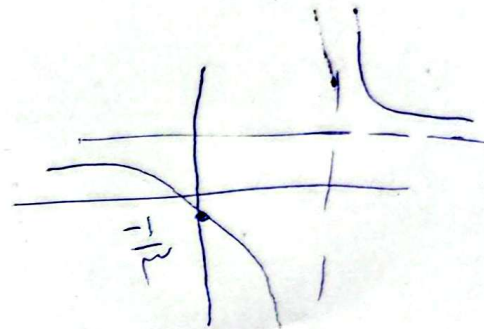


$$n=0 \rightarrow y=-\frac{1}{1}$$

$$m = \frac{ny+1}{y-1} \rightarrow ny - m = ny - 1$$

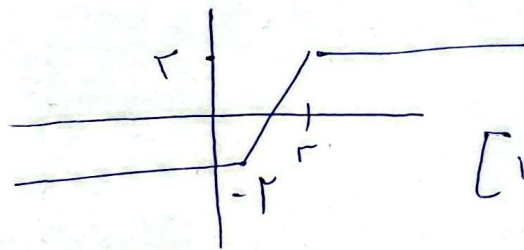
$$ny + ny = 1 + m$$

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



$$f(m) = |m-1| - |m-2|$$

$$m+1+m-2 = -1 \quad m \leq 1$$



$$[1, 2]$$

نقطه

$$m-1+m-2 = m-1 \quad 1 < m \leq 2$$

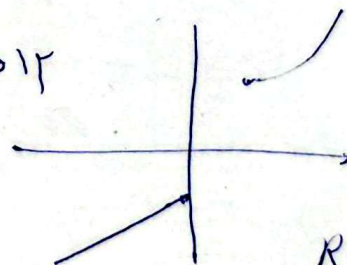
$$m-1-m+2 = 1 \quad m > 2$$

$$1 \leq m \leq 2 \rightarrow$$

$$1 \leq m \leq 2 \rightarrow -m+1+m-2 = m-1$$

$$y = m-1 \rightarrow m = y+1 \quad y = \frac{m+1}{1}$$

$$f(m) = \begin{cases} m^2 + 1 & m \geq 1 \\ m-1 & m \leq 0 \end{cases}$$



$$m \leq 1$$

$$y = m^2 + 1 \rightarrow m = \sqrt{y-1} \quad m = \sqrt{y-1} \rightarrow y = m^2 + 1$$

$$f^{-1}(m) = \begin{cases} \sqrt{m-1} & m \geq 1 \\ \frac{m+1}{1} & m \leq -1 \end{cases}$$

$$R f(m) = p f(m) - 1$$

$$[0, 1] \cup (-\infty, -1]$$

$$f(m) \begin{cases} m^2 - 1 & m > a \\ m^2 - 1 & m \leq a \end{cases} \quad \begin{cases} 12m - 10 \leq m^2 - 1 \\ 12a - 10 \leq a^2 - 1 \end{cases} \quad a = 2$$

$$\frac{(a^2 - 1)(a - 1)}{(a + 1)(a - 1)} \geq 0 \quad -\frac{1}{1} + \frac{1}{1} + \frac{1}{1} = 1 \quad \text{if } a = 2$$

$$f(v) = 2v - 10 = 11 \quad f(1) = 2 \quad 2 \times 1 + 11 = 13$$

$$f(f(m)) = f(m - 1) = 2(m - 1) - 10 = 2m - 12 = 2m - 10$$

$$f(m) = \frac{am}{m-1} \quad f^{-1}(am) = a \quad \text{if } a = 2$$

$$f(a) = 2a \rightarrow f(a) = \frac{a^2}{a-1} = 2a \rightarrow a^2 - 2a = 0 \rightarrow a(a-2) = 0 \rightarrow a = 2$$

$$f = \{(0,0), (1,1), (2,2), (3,3)\} \quad f^{-1} = \{(0,0), (1,1), (2,2), (3,3)\}$$

$$f \circ f^{-1} = \{(0,0), (1,1), (2,2), (3,3)\}$$

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$$f \circ f^{-1} = \{(0,0), (1,1)\}$$

$$f \circ f = \{(0,0), (1,1), (2,2), (3,3)\}$$

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

(4)

$$f^{-1}(m) = \frac{am+b}{cm+d}$$

$$m^r (m+r) \rightarrow \frac{m^r + r m^r - m^r - r m^r - r m - 1}{m+r} = 1$$

$$\rightarrow \frac{-(r m + 1)}{m+r} = y$$

$$f(y) = \frac{-(r m + 1)}{m+r} \rightarrow f^{-1}(m) = \frac{-(r y + 1)}{y+r}$$

$$\rightarrow y + r m = -r y - 1 \quad (r m) y = -r m - 1$$

$$\begin{matrix} a = -4 & d = 4 \\ b = -r & \end{matrix} \quad f(m) = \frac{-4m - r}{rm + 4} \quad \leftarrow x^r$$

$$f^{-1}(-r) = \frac{-4 \times (-r) - r}{r \times (-r) + 4} = 0$$

$$f(m) = \frac{m}{m^r + 1} \rightarrow y = \frac{m}{m^r + 1} \rightarrow m = \frac{y}{y^r + 1} \quad \text{So}$$

$$m y^r + m = y \quad m y^r - y + m = 0$$

$$1 - m^r > 0 \rightarrow 1 > m^r \quad m y^r + m = y \quad m y^r - y + m = 0$$

$$\frac{1}{r} y^r \rightarrow -\frac{1}{r} \leq m \leq \frac{1}{r}$$

$$\rightarrow f(m) \left\{ \begin{array}{l} \frac{1}{r} \leq m \leq \frac{1}{r} \\ \frac{1}{r} \leq m \leq 0 \end{array} \right. \quad \text{PAYCO} \quad \text{DATE}$$