

$$f(m) = \begin{cases} m^2 - 4 & ; m > 4 \\ 12m - 20 & ; m \leq 4 \end{cases}$$

$$a^3 - 4, 12a - 20$$

$$a^3 - 12a + 4 \geq 0 \rightarrow (a^3 + 12a - 4a^2 - 12a) - 12a + 4 + 4a^2 = 0$$

$$(a-2)^2 + 4(a^2 - 4a + 4) = (a-2)^2 + 4(a-2)^2$$

$$(a-2)^2 (a-2+4) = (a-2)^2 (a+2) \rightarrow a \geq 2$$

از آنجا که $a \geq 2$ است پس $a \geq 2$

$$f(m) = 12m + k \quad f^{-1}(x) = 4 \rightarrow f(4) = 2$$

$$\text{الف) } f(4) = 12(4) - 10 = 38$$

$$12 + k = 2 \quad k = -10$$

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

$$\text{ب) } f(f(m)) = f(12m - 10) = 12(12m - 10) - 10 = 144m - 130$$

$$f(m) = \frac{am}{m-1}$$

$$A \mid \frac{ra}{a} \rightarrow \mid a$$

$$(f^{-1}(a)) \mid$$

$$f(a) \mid$$

$$(f^{-1}(a)) \mid f(a) \mid$$

$$f(m) = \frac{a^2}{a-1} = ra$$

$$ra^2 - ra = ar$$

$$a^2 - ra = 0 \quad a(a-r) = 0 \quad a = 0 \quad a = r$$

$$g = \{(3,2), (1,4), (9,0)\} \quad f = \{(3,0), (4,7), (7,2), (9,4)\}$$

$$g^{-1} = \{(2,3), (4,1), (0,9)\} \quad f^{-1} = \{(0,3), (7,4), (2,7), (4,9)\}$$

$$\text{الف) } f \circ f^{-1} \Rightarrow \{(0,0), (7,7), (4,4), (2,2)\}$$

$$\text{ب) } f^{-1} \circ f \Rightarrow \{(3,3), (4,4), (7,7), (9,9)\}$$

$$\text{ج) } f \circ g^{-1} \Rightarrow \{(2,0), (0,4)\}$$

$$\text{د) } g^{-1} \circ f \Rightarrow \{(3,9), (7,3), (9,1)\}$$

$$f = \{(1, 4), (2, 1), (3, 0)\} \quad g = \{(1, 1), (2, 3), (3, 0)\}$$

(3)

$$h = \{(1, 2), (2, 4), (3, 1), (4, 1)\}$$

(5)

$$f \circ g^{-1} \Rightarrow \{(1, \frac{1}{4}), (2, \frac{1}{1}), (3, \frac{1}{0})\} \rightarrow \{(1, \frac{1}{4}), (2, \frac{1}{1})\}$$

$$f \circ g^{-1} \{ (1, 4), (2, 1), (3, 0) \}$$

غرض

(4)

$$f = \frac{m+1}{m-2}$$

$$\frac{am+b}{cm+d}$$

$$\Rightarrow ad \neq bc \Rightarrow -4 \neq 1$$

تابع معکوس دارد
و یک به یک است.

(5)

$$f^{-1} \Rightarrow y = \frac{m+1}{m-2}$$

$$ad - bc = -4 - 1 = -5$$

نقطه

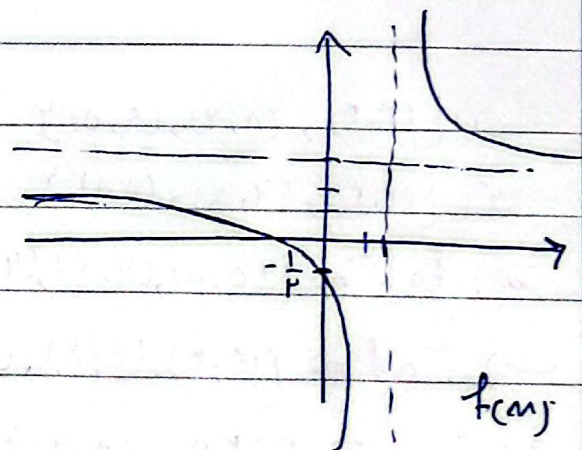
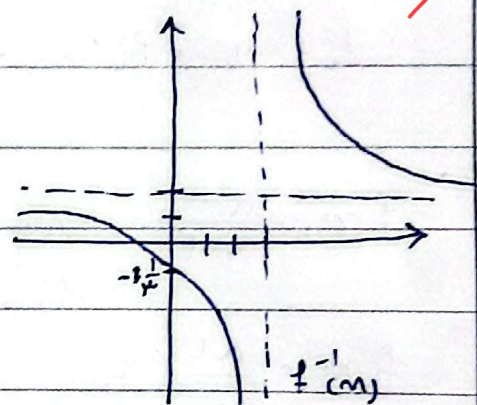
$$m-2=0$$

$$\frac{a}{c} = 2$$

$$\text{if } m=0 \Rightarrow y = -\frac{1}{2}$$

مجاوب منفی

مجاوب منفی



بایست ضابطه تابع معکوس مد این بارزه ؟

$$\{r, m, n\}$$

$$r_{m-t} \quad 1 \leq m \leq r$$

$$\rightarrow \left. \begin{matrix} a_{\pm 1} \\ b_{\pm 1} \end{matrix} \right\} y_{\pm 1} u - \varepsilon$$

سوال نمبر 5

$$f(m, s) = \frac{\mu m - 1}{m - \mu}$$

$$P^{-1}(m) = \frac{-y-1}{y+1}$$

$$n^k_4 \quad k_m^r - n^k_{-} \quad k_m^r \quad k_m - 1$$

$$f^{-1}(-2) = \frac{-1(-2) - 1}{-1 \cdot 1} = 1$$

$$f_n = \frac{n-1}{n+k}$$

$$\approx y = \frac{-4m-1}{1m+4}$$

as-y
br-r
ds-y

9 (سوال نمبر 2)

✓ فارون بنی

$$\left. \begin{array}{l} y = m^k + \varepsilon \quad y - \varepsilon = m^k \quad m = \sqrt[k]{y - \varepsilon} \\ y = \varepsilon m^{-1} \quad \varepsilon m = y + 1 \quad m = \frac{y+1}{\varepsilon} \end{array} \right\} \begin{array}{l} y = \sqrt[k]{m - \varepsilon} \quad , m \geq 0 \\ y = \frac{m+1}{\varepsilon} \quad , m \leq -1 \end{array}$$

$$y = \frac{m-1}{m} \quad \text{and} \quad y = \frac{m+1}{m} \quad \Rightarrow \quad y = \frac{m+1}{m}, \quad m \leq -1$$

• Date: / /

• Subject:

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

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$$\Delta = 1 - \epsilon m^2$$

$$f^{-1}(m) = \frac{1 \pm \sqrt{1 - \epsilon m^2}}{\epsilon m}$$

$$y = \frac{1 \pm \sqrt{1 - \epsilon m^2}}{\epsilon m}$$

جواب منقول
جواب منقول

$$D f^{-1}(m) = \left[-\frac{1}{\epsilon}, \frac{1}{\epsilon} \right] - \{0\}$$

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