

(باید نوشت)

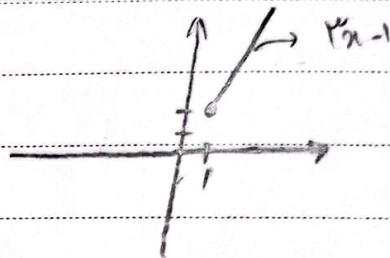
الف) $n^2 - n = 2 \rightarrow n^2 - n - 2 = 0 \rightarrow (n-2)(n+1) = 0$ $n=2, m=3$

ب) $m=2, a=-1, n=2$

$x+a \leq 2$

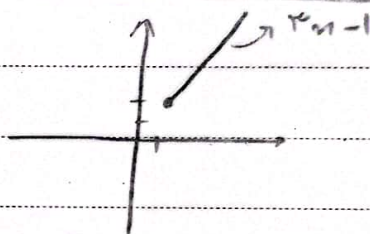
$1+a \leq 2$

$a \leq 1$



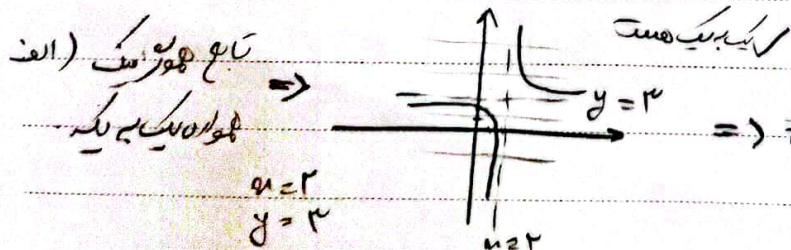
$a > 0$ $\Rightarrow$ $a \leq 1$ $\Rightarrow$ $a \leq 1$

$0 < a \leq 2$ $\Rightarrow$ $a \leq 2 - a - 1 < 2$



الف) $x^3 + 2 \Rightarrow x = y^3 + 2$
 $x - 2 = y^3 \Rightarrow y = \sqrt[3]{x-2} = f^{-1}(x)$

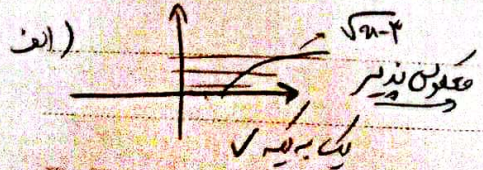
معکوس نهاده $\rightarrow$ معکوس نهاده $\rightarrow$ معکوس نهاده



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

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

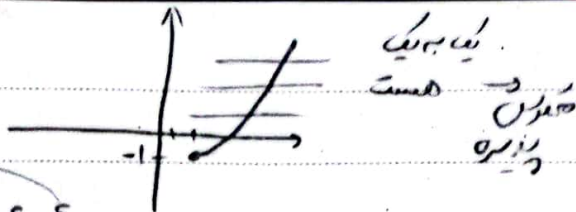
ب) $\frac{2(x+1)}{x+2} \Rightarrow y = 2$ $\Rightarrow$ معکوس نهاده $\rightarrow$ معکوس نهاده $\rightarrow$ معکوس نهاده



$x = \sqrt{y-2} \Rightarrow x^2 = y - 2$

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

$$c) x = \frac{\varepsilon}{r} = r \rightarrow r - 1 + r = -1$$



$$x = y^r - \varepsilon y + r \rightarrow x - r = (y^r - \varepsilon y) + \varepsilon - \varepsilon$$

$$x = (y - r)^r - 1 \rightarrow x + 1 = (y - r)^r \rightarrow \sqrt[r]{x+1} = y - r \rightarrow y = \sqrt[r]{x+1} + r$$

$\Delta \rightarrow x > -1$

$$f(x) = x + \sqrt{x} \rightarrow y = \sqrt{x + \frac{1}{\varepsilon}} - \frac{1}{\varepsilon}$$

$$y + \frac{1}{\varepsilon} = \sqrt{x + \frac{1}{\varepsilon}} \rightarrow x + \frac{1}{\varepsilon} = \left(y + \frac{1}{\varepsilon}\right)^2 \rightarrow y + \frac{1}{\varepsilon} = \sqrt{x + \frac{1}{\varepsilon}}$$

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

$$a=1 \quad b=\frac{1}{r} \quad c=-\frac{1}{\varepsilon} \quad y = x + \frac{1}{r} - \sqrt{x + \frac{1}{\varepsilon}}$$

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

$$\frac{y}{\sqrt{x^2 - r}} \rightarrow y = y^r \rightarrow \frac{y_1}{\sqrt{x_1^2 - r}} = \frac{y^r}{\sqrt{x^2 - r}} = \frac{y_1^r}{x_1^r - r} = \frac{y_1^r}{x_1^r + r}$$

$$(y_1 + y^r)^r - r y_1^r = (y_1 + y^r)^r - r y_1^r \rightarrow y_1 = \pm y^r$$

$$\frac{y^r + 0}{x^r - r} = y^r \rightarrow y^r x^r - r y^r = x^r \rightarrow y^r x^r - x^r = r y^r \rightarrow x^r (y^r - 1) = r y^r \rightarrow x^r = \frac{r y^r}{y^r - 1}$$

$$\frac{a}{1 + |a|} = \frac{r}{\omega}, \quad \omega a = -r - r|a| \rightarrow \omega a + r|a| = -r$$

$$f\left(\frac{r}{\omega}\right) = \frac{r}{\omega}$$

$$g\left(\frac{r}{\omega}\right) \rightarrow \sqrt{x} - 1 = \frac{r}{\omega} \rightarrow \sqrt{x} = \frac{r}{\omega} \rightarrow x = \frac{r}{\omega} \rightarrow \frac{r}{\omega} - \frac{r}{r} = \frac{r - \omega}{\omega} \rightarrow \frac{r - \omega}{\omega}$$

$$f(x) \rightarrow y = \sqrt[r]{x-1} \rightarrow x = \sqrt[r]{y-1} \rightarrow x+1 = y$$

$$y(x) = x + \sqrt{x^r + 1} = \frac{1}{r} \rightarrow x = r$$