

$m=3$

$n^2 - n = 2 \rightarrow n(n-1) = 2$

$n = -1, m = 3$

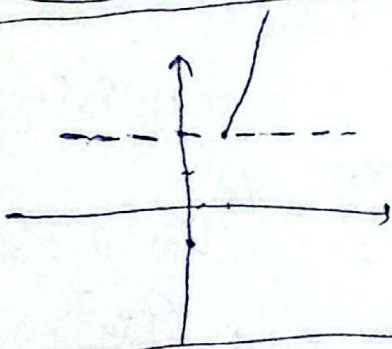
۱- الف)

$m=2 \quad (a, 1)$

$a = -1 \quad (n, n)$

ب)

$n=2$

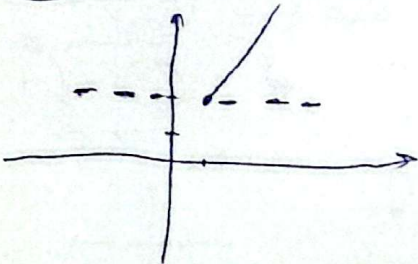


$x=1 \rightarrow x+a \xrightarrow{(1,2)}$

$a=1$

$a \rightarrow (-\infty, 1]$

۲-



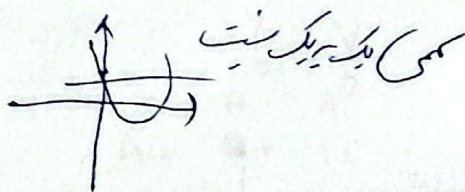
$a-1 < 2 \rightarrow a < 3$

$(-\infty, 3)$

۳-

$x_1^2 + x = x_2^2 + x \rightarrow x_1^3 = x_2^3 \rightarrow x_1 = x_2 \quad \sqrt[3]{x-2}$ ✓ الف) ۴-

$x^2 - 4x + 2$



یکی یک نیست

× نیست

ب)

۵-

تابع همگرا نیست است (الف)
یک یک نیست

$\frac{x^2+1}{x-2} \rightarrow \frac{|x+1|}{x-3}$ ✓

$\frac{2(x+2)}{x+2}$ ب)

یکی یک نیست و همگرا نیست و ناهمگرا

$\sqrt{x-3}$ الف)

$x-3 = \sqrt{x} \rightarrow (x-3)^2 = x \rightarrow x \geq 0$ یک یک نیست

$f^{-1}(x) \rightarrow (x-3)^2 \quad x \geq 0$

$x^2 - 4x + 2 \rightarrow (x-1)(x-2) \quad \frac{b}{2a} = 2$ ب) یک یک نیست

~~$$f(x) = x + \sqrt{x^2 - 1}$$~~

~~$$f(x) = \sqrt{x^2 - 1}$$~~

$$x = \left(\frac{-1 + \sqrt{1 + 4y}}{2} \right)^2$$

$$f^{-1} = \frac{1}{2} (1 + 4y - 2\sqrt{1 + 4y} + 1) \rightarrow y + \frac{1}{2} - \frac{1}{2} \sqrt{1 + 4y}$$

$$f^{-1} = x + \frac{1}{2} - \frac{1}{2} \sqrt{1 + 4x} \rightarrow a=1 \quad b=\frac{1}{2} \quad c=-\frac{1}{2} \quad 1+1-2=0$$

$$y = \frac{x}{\sqrt{x^2 - 1}} \quad \Rightarrow \quad \frac{x_1}{\sqrt{x_1^2 - 1}} = \frac{x_2}{\sqrt{x_2^2 - 1}} \xrightarrow{\text{cross}} x_1 = x_2$$

$$\text{cross} \rightarrow y = \frac{\sqrt{1+x}}{x^2 - 1}$$

~~$$g(x) = f = \frac{-x}{x-1} \rightarrow \frac{\frac{y}{a}}{\frac{y}{a} - \frac{a}{b}} = -\frac{y}{x}$$~~

$$g(x) = (x+1)^2 \rightarrow \left(\frac{y}{a}\right)^2 = \frac{a}{va} - \frac{y}{x} \rightarrow \frac{y^2}{va} - \frac{a_0}{va} = -\frac{y^2}{va}$$

$$(f)^{-1} x = \left(\frac{-1 + \sqrt{1 + 4x}}{2} \right)^2 \rightarrow \frac{1 + 1 + 4x - 2\sqrt{1 + 4x}}{4} \rightarrow \frac{4x + 2 - 2\sqrt{1 + 4x}}{4}$$

$$f(x) \rightarrow (x+1)^2 \rightarrow f(x) + \sqrt{f(x)} = 1 \rightarrow f(x) = 9$$

~~$$(x+1)^2$$~~

$$\sqrt{x-1} = 9 \rightarrow 11 \times 9 = \sqrt{9+1} \rightarrow \sqrt{10}$$