

A

$$\begin{aligned}
 x_1 = -1, y = 0 &\Rightarrow 1 - f_c^{-1,0} - b = 0 \Rightarrow -1,0 - b = c \\
 x_1 = 0, y = 2 &\Rightarrow 1 - f_c^{-b} = 2 \Rightarrow \frac{1}{c} = -b \Rightarrow b + c = -\frac{3}{2} \Rightarrow c = \frac{1}{2} \\
 &\qquad\qquad\qquad b = -2 \\
 b(a+c) &= -2(1,0) = -2 \Rightarrow a = 1
 \end{aligned}$$

$$\begin{aligned}
 x_1 = 1, y = 0 &\Rightarrow 1 + cx^a = 0 \Rightarrow cx^a = -1 \\
 x_1 = 0, y = \frac{2}{3} &\Rightarrow 1 + cx^a = \frac{2}{3} \Rightarrow cx^a = -\frac{1}{3} \Rightarrow c = -\frac{1}{3}, a = -1 \\
 &\qquad\qquad\qquad b = 1 \\
 f(-1) &\rightarrow 1 + (-1)x^{-1} = \frac{1}{2}
 \end{aligned}$$

$$\begin{aligned}
 |x^2 - 2| - x > 0 &\rightarrow |x^2 - 2| > x \rightarrow \begin{cases} x^2 - 2 > x \rightarrow x^2 - x - 2 > 0 \quad \text{I} \\ x^2 - 2 < -x \rightarrow x^2 + x - 2 < 0 \quad \text{II} \end{cases} \\
 \text{I} \quad \frac{-1 \pm \sqrt{1+8}}{2} & \quad \text{II} \quad \frac{-1 \pm \sqrt{1-8}}{2} \\
 \text{اجماع} \quad \mathcal{D}_f &= (-\infty, 1) \cup (2, +\infty)
 \end{aligned}$$

$$\begin{aligned}
 x_1 = 1 &\rightarrow f(1) = k = 2 + 2^{b-a} \Rightarrow b - a = 1 \\
 f^{-1}(1,0) = -1 &\Rightarrow f(-1) = 1,0 \Rightarrow 1,0 = 2 + 2^{b+a} \Rightarrow b + a = 3 \\
 \begin{cases} b - a = 1 \\ b + a = 3 \end{cases} &\rightarrow b = 2, a = 1 \Rightarrow b - a = 1
 \end{aligned}$$

$$x=1 \rightarrow y=0 \Rightarrow f(1) = -1 + \left(\frac{1}{1}\right)^{A+B} = 0 \Rightarrow \left(\frac{1}{1}\right)^{A+B} = 1 \Rightarrow A+B = -1$$

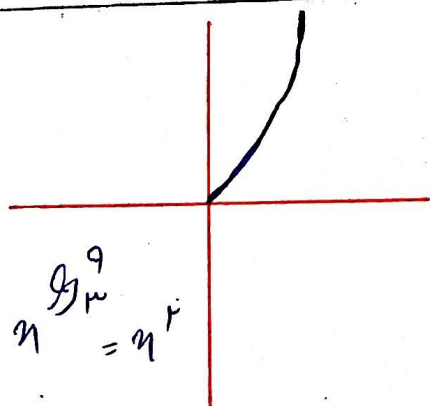
$$x=r \rightarrow y=1 \Rightarrow f(r) = -r + \left(\frac{1}{r}\right)^{A+B} = 1 \Rightarrow \left(\frac{1}{r}\right)^{A+B} = 1+r \Rightarrow rA+B = -r$$

$$\begin{cases} rA+B = -r \\ A+B = -1 \end{cases}$$

$$\begin{cases} rA+B = -r \\ A+B = -1 \end{cases}$$

$$\underline{A = -1} \quad B = 0$$

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



$$g_r^r = r \quad g_r^r = r^r$$

