

$\min_{\text{نسبي}} = 0 \rightarrow n$
 $\max_{\text{نسبي}} = 1 \rightarrow m$
 بقاها = $\psi \rightarrow k$

$\Rightarrow m+n+k = 5$

$\sqrt{x(1-|x|)} \rightarrow$
 $\sqrt{-x^p + x} \quad x \geq 0$
 $\sqrt{x^p + x} \quad x < 0$

$f(x) = \leftarrow$ البعد المتعدد + البعد المتعدد = البعد المتعدد \Rightarrow

$\min \rightarrow$ انزياح / ازيه (نسبي)
 $\max \rightarrow$ انزياح / ازيه (نسبي)

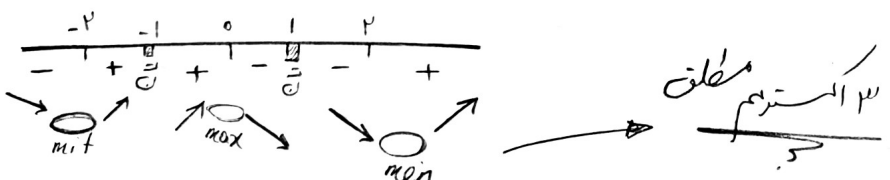
$D_f = [0, \frac{a}{\psi}] \Rightarrow \min \times \max = \sqrt{a} \times \sqrt{\frac{a}{\psi}} = \sqrt{\frac{a^2}{\psi}} = \sqrt{\psi} \Rightarrow a^2 = \psi^3 \Rightarrow a = \sqrt{\psi^3}$

من غير قابل قبول

$\Rightarrow a = \sqrt{\psi^3} \Rightarrow [a] = \psi$

$f(x) \begin{cases} x \geq 1, x \leq -1 \rightarrow \frac{x^p(x^p-1)}{x^p-1} \\ -1 < x < 1 \rightarrow -\frac{x^p(x^p-1)}{x^p-1} \end{cases} \rightarrow y'(x) = \frac{\psi x^{\psi-1} - \psi x^{\psi} + \psi x}{(x^p-1)^2} = 0$

$\Rightarrow \psi x (x^{\psi-1} - \psi x^{\psi} + 1) = 0$



$f(0) = 0 \Rightarrow d = 0$
 $f'(0) = 0 \Rightarrow c = 0$

$\Rightarrow f(x) = ax^p + bx^{\psi} \Rightarrow \begin{cases} f(1) = a + b = 1 \\ f'(1) = \psi a + \psi b = 0 \end{cases} \Rightarrow \begin{cases} a = -\psi \\ b = \psi \end{cases} \Rightarrow ab = -\psi^2$

$f(x) = -x^{\psi} + \psi x \rightarrow f'(x) = -\psi x^{\psi-1} + \psi = 0 \Rightarrow \begin{cases} x = 1 \\ x = -1 \end{cases}$

$f(1) = \psi$
 $f(-1) = -\psi \rightarrow \min \circledast$
 $f(\sqrt{\psi}) = 0$
 $f(-1,0) = -\frac{a}{\psi}$

$$y = -x^p + pax^p + b \rightarrow y' = -px^{p-1} + 4ax \xrightarrow{x=-1} -p - 4a = 0 \Rightarrow a = -\frac{1}{p}$$

$$y(-1) = 1 \Rightarrow 1 - \frac{p}{p} + b = 1 \Rightarrow b = +\frac{p}{p} \Rightarrow \frac{b}{a} = \frac{+\frac{p}{p}}{-\frac{1}{p}} = -p$$

$$\text{men} \rightarrow -\frac{b}{pa} = x = -\frac{1}{p}$$

$$\text{مجانِب افقی} = y = \frac{-a+1}{a+1}$$

$$\text{مجانِب قائم} = x = \frac{a}{a+1}$$

$$\Rightarrow \frac{a}{a+1} = -\frac{1}{p} \Rightarrow pa = -a-1 \Rightarrow a = -\frac{1}{p}$$

$$\Rightarrow -\frac{1}{p}x + p = 0 \Rightarrow x = 1p$$

$$\text{مجانِب افقی} = y = p$$

$$\text{مجانِب قائم} = x = -\frac{1}{p}$$

$$\lim_{x \rightarrow \infty} \frac{bx^p + v}{px^p + ax + 1} = p \Rightarrow \frac{b}{p} = p \Rightarrow b = 1p$$

$$\lim_{x \rightarrow -\frac{1}{p}} \frac{bx^p + v}{px^p + ax + 1} = \infty \Rightarrow f\left(\frac{1}{p}\right) + \frac{-a}{p} + 1 = 0 \Rightarrow a = p$$

$$\frac{b}{a} = \frac{1p}{p} = 1$$

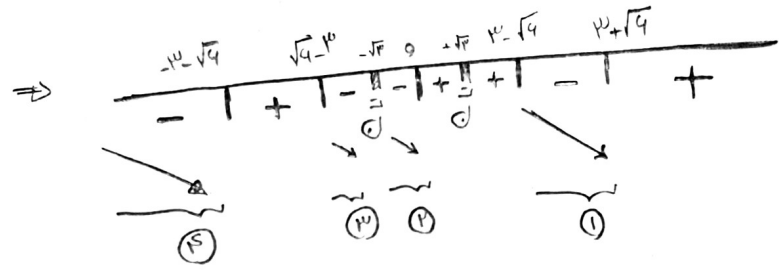
$$f'(x) = \frac{px^p(x^p-1) - px^p(x^p)}{(x^p-1)^2} \Rightarrow px^4 - 4px^3 - px^4 = 0 \rightarrow x^4 - 4px^3 = 0$$

$$\begin{array}{c} 0 \quad p \quad p\sqrt{p} \\ + \quad | \quad | \quad + \\ \text{صعود} \quad \text{نزول} \quad \text{صعود} \end{array} \Rightarrow [0, p) \cup (p, p\sqrt{p}]$$

$$f'(x) = \frac{5x^4(x^2-3) - 2x(x^5-3)}{(x^2-3)^2} \Rightarrow 5x^6 - 12x^4 - 2x^6 + 4x = 0 \Rightarrow 2x^6 - 12x^4 + 4x = 0$$

$$x(x^5 - 4x^3 + 3) = 0$$

\downarrow
 $\pm(\sqrt{3-4})$ $\pm(\sqrt{3+4})$



4 بازه ابتدا نزولی