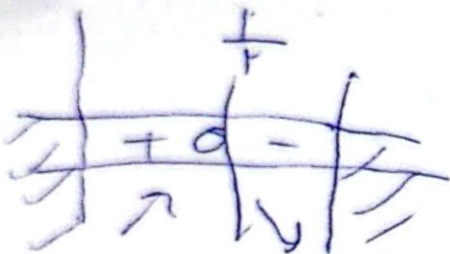


۲. انجمن

ملیاتی

$$\begin{cases} \sqrt{x+2} & x \geq 0 \\ \sqrt{x+2} & x < 0 \end{cases} \xrightarrow{\text{منطق}} f' \begin{cases} \sqrt{1-x} \rightarrow x = \frac{1}{4} \checkmark \\ \sqrt{1+x} \rightarrow x = -\frac{1}{4} \times \end{cases} \quad (1)$$

$$D_f = (-2, -1] \cup [0, 1]$$



$\frac{1}{4} = \max \cup \rightarrow m = | \text{منطق} + k =$
 $\times \text{min} \cup$ P ✓ a
 مجاز = $0, \pm 1, \frac{1}{4}, \frac{3}{4}$

$$f' = \frac{1}{2\sqrt{x}} - \frac{1}{\sqrt{a-x}} = \frac{\sqrt{a-x} - 2\sqrt{x}}{(2\sqrt{x})(\sqrt{a-x})} = 0$$

$x = \frac{a}{4} / \frac{a}{4} / 0 \quad f(\frac{a}{4}) = \sqrt{\frac{a}{4}} \in \text{min}$

$\max \rightarrow f(\frac{a}{4}) = 2\sqrt{\frac{a}{4}} \quad f(0) = \sqrt{a}$

$\sqrt{\frac{a}{4}} \times \sqrt{\frac{4a}{4}} = \sqrt{a} \rightarrow a \pm \frac{1}{4} \quad a > 0 \quad [a] \neq \frac{1}{4}$ P

$ax^2 + bx + c = d \rightarrow y' = 2ax + b = 0 \quad (3)$

$|0 \rightarrow d=0 \quad \{ a=1 \rightarrow 2a + b = 0 \} \quad a=0 \rightarrow c=0$

$|1 \rightarrow a + b + c = 1 \xrightarrow{c=0} a + b = 1$

$a + b = 1 \rightarrow a = 1/b = 1 \rightarrow ab = 1$ P

$2a + b = 0$

$$(u) \quad \frac{-r \pm \sqrt{r^2 - 4ac}}{2a} \quad | \quad f = \frac{a^2 - \epsilon a^2}{r-1}$$

$$f' = \frac{(a^2 - \epsilon a^2)(r-1) - (r-1)(a^2 - \epsilon a^2)}{(r-1)^2} = \frac{a^2 - \epsilon a^2 + \epsilon a^2 - a^2}{(r-1)^2}$$

در صورتی که $r \neq 1$ باشد
 در صورتی که $r = 1$ باشد
 در صورتی که $r = 1$ باشد

$$\pm \sqrt{0}$$

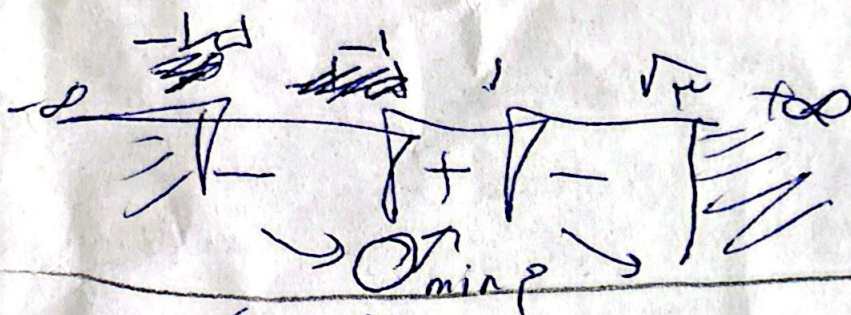
(v)

$$f(x) = x^{\mu} - x^{\nu} \rightarrow f' = -\mu x^{\mu-1} + \nu = 0$$

(8)

$$n \pm 1 \quad f(-1) = -\nu \text{ min}$$

$$f(\sqrt{\nu}) = 0$$



$$\min f = (-1, -\nu)$$

~~scribbles~~

(9)

$$f'(x) = 0 \leftarrow \text{النزلي}$$

$$f(x) = |x|^{\mu} + \mu a |x|^{\nu} + b \rightarrow f'(x) = \mu |x|^{\mu-1} + \mu \nu a |x|^{\nu-1}$$

$$x = -1 \rightarrow \mu + \mu \nu a = 0 \quad a = -\frac{1}{\nu} \quad b = \frac{\mu}{\mu} \quad \boxed{\frac{b}{a} = -\nu}$$

$$y = \frac{\mu}{\nu} x^{\nu} + x + \frac{a}{\nu} \rightarrow -\frac{b}{\nu x} = -\frac{1}{\nu} = a$$

(10)

$$y = \frac{\mu}{\nu} \rightarrow (-\frac{1}{\nu}, \frac{\mu}{\nu}) \quad \frac{a}{a+1} = \frac{\mu}{\nu} \rightarrow a = \frac{\mu}{\nu-1}$$

$$y = \frac{\mu x + \mu}{\mu x + 1} = 0 \rightarrow x = -\frac{\mu}{\mu}$$

(11)

$$y = \frac{b x^{\mu} + \nu}{\mu x^{\nu} + a x + 1} \quad \text{انقضى} \quad \frac{b}{\mu} = \nu \quad y = \frac{(\nu x^{\nu} + \nu)}{\mu x^{\nu} + a x + 1}$$

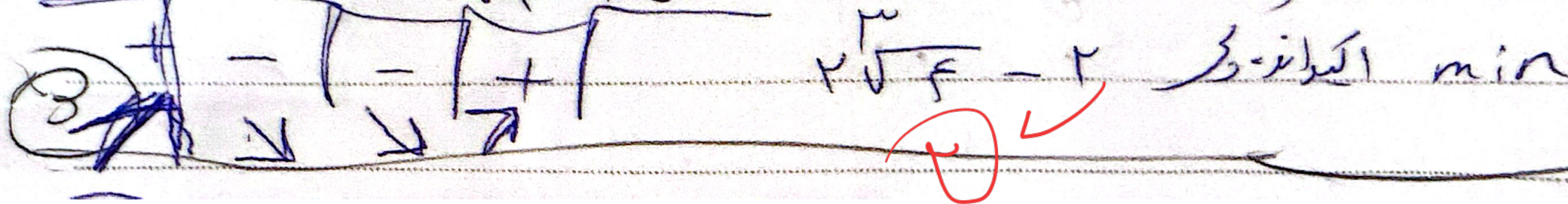
$$\text{ع01} \rightarrow \mu x^{\nu} + a x + 1 = (\nu x^{\nu} + \nu) \quad \mu = \nu a + \nu \rightarrow \frac{b}{a} = \frac{\nu}{\nu-1}$$

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Date:

$$f(x) = \frac{x^{\mu}}{2x^{\mu} - 1} \rightarrow f' = \frac{\mu x^{\mu-1} (2x^{\mu} - 1) - x^{\mu} (2\mu x^{\mu-1})}{(2x^{\mu} - 1)^2} \quad (9)$$

$$u = 0 \quad / \sqrt{\mu x^{\mu-1}}$$
$$\rightarrow \frac{2x^{\mu} (2x^{\mu} - \mu x^{\mu})}{(2x^{\mu} - 1)^2}$$



$$f'(a) = \frac{F_{2^{\mu}}(a^{\mu} - \mu) - \mu(a^{\mu} - \mu)}{(a^{\mu} - \mu)^2} \quad (10)$$

