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

ملیتا کیا ز

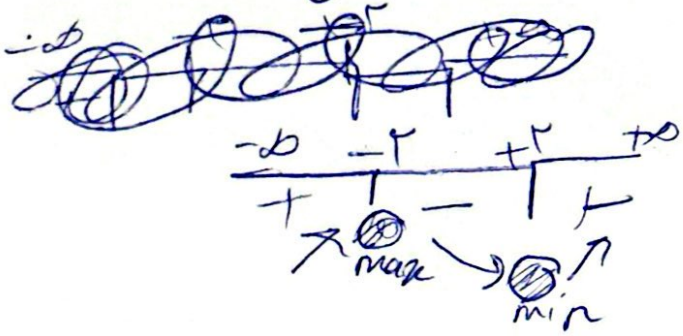
$$\frac{\frac{2}{2}a}{2}=\frac{a}{2x^2} \rightarrow \frac{1}{2}=\frac{1}{2x^2} \rightarrow x^2 \begin{cases} -\sqrt{2} \times \\ +\sqrt{2} \checkmark \end{cases}$$

$$2ax^2-5x+18a=x \rightarrow 2ax^2-4x+18a=0 \rightarrow \Delta=0$$

$$a-8(a)(9a)=0 \rightarrow a=\pm\frac{1}{2} \quad \begin{cases} - \checkmark \\ + \times \end{cases}$$

$-\frac{1}{4}$ (۲)

$$y'=2x^2-12 \rightarrow y'=0 \rightarrow 2x^2-12=0 \rightarrow x=\pm 2$$

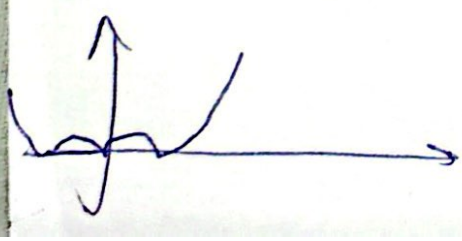


$y_{min}=f(2)=-16$ (۳)

$$y'=2x^2+2ax-2b=0 \rightarrow x=0 \quad b=0 \;,\; x=-2 \quad a=2$$

A B $=2\sqrt{5}$ (۴)

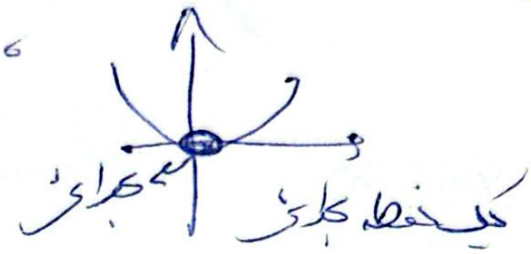
$$f(x)=|x|^2-5|x| \rightarrow y=|x^2|^2-5|x|$$ $\frac{n}{m}=\frac{2}{2}$ (۵)



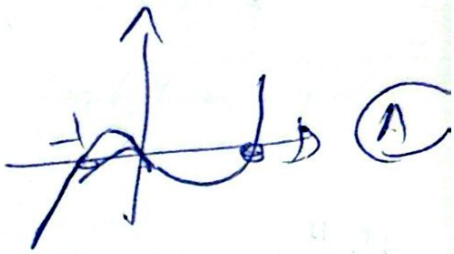
(۴)

$|x(x+2)| = |x^2+2x| \to x>0$

$|x(-x+2)| = |-x^2+2x| \to x<0$



$y = |x|x - x$ ↱ $x^2 - x$ $\quad x \geq 0$ ↳ $-x^2 + x$ $\quad x \leq 0$



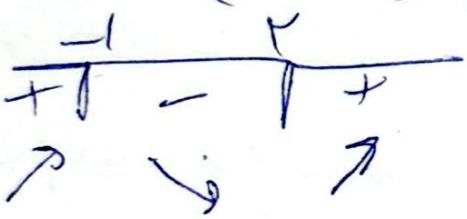
(۸)

$k=2$ ، $\max=1$ ، $\min=0$

$\frac{4\times 1 - 0}{2-0} = 2$

(۹)

$y' < 0 \to \frac{m^2-m-2}{(x-1+m)^2} \Leftarrow m^2-m-2<0$



$\frac{\text{مجموع}}{\text{تعداد}} \to m = 0.5$ ← از بازه‌ی $(-1,2)$ مقدار

(۱۰)

$1 - x|x| = 0 \to x|x| = 0$ ⎧ $x \geq 0$ $\quad x=1$ ~~$x \leq -1$~~

f' ⎧ $x \geq 0$ ⎩ $x \leq 0$

$\frac{2x^2+1}{(1-x^2)^2} = 0 \Rightarrow$ ~~$x^2 = -1$~~

$\frac{1-x^2}{(1+x^2)^2} \to x^2 = 1 \Rightarrow x = -1$