

تکلیف ۲۵

مسئله ۱۱، ۱۵

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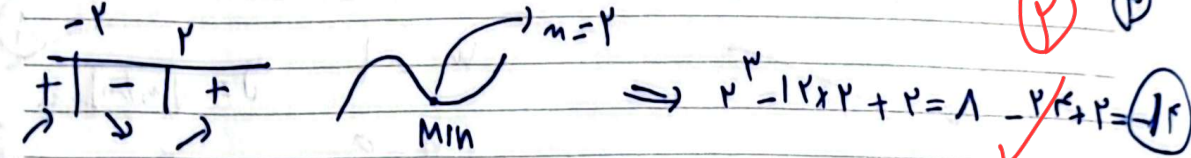
16 Oct. 2024

$$\frac{f(x) - f(1)}{x - 1} = \frac{1 - \frac{a}{x} - [1 - a]}{x - 1} = \frac{\frac{a}{x}}{x - 1} = \frac{a}{x(x-1)}$$

$$f'(x) \rightarrow \frac{a}{x^2} \rightarrow \frac{a}{x^2} = \frac{a}{m^2} \Rightarrow m = \pm \sqrt{a}$$

$y' = 2am - a = -1$
 $2am = a - 1 \Rightarrow m = \frac{a-1}{2a}$
 $f(\frac{a-1}{2a}) = \frac{1}{\frac{a-1}{2a}} = \frac{2a}{a-1} = \frac{2a}{a} - \frac{2a}{a-1} + 1 = 2 - \frac{2a}{a-1} + 1 = 3 - \frac{2a}{a-1}$

$$f(m) = m^2 + 2m - 1 \rightarrow f'(m) = 2m + 2 = 0 \Rightarrow m = -1$$

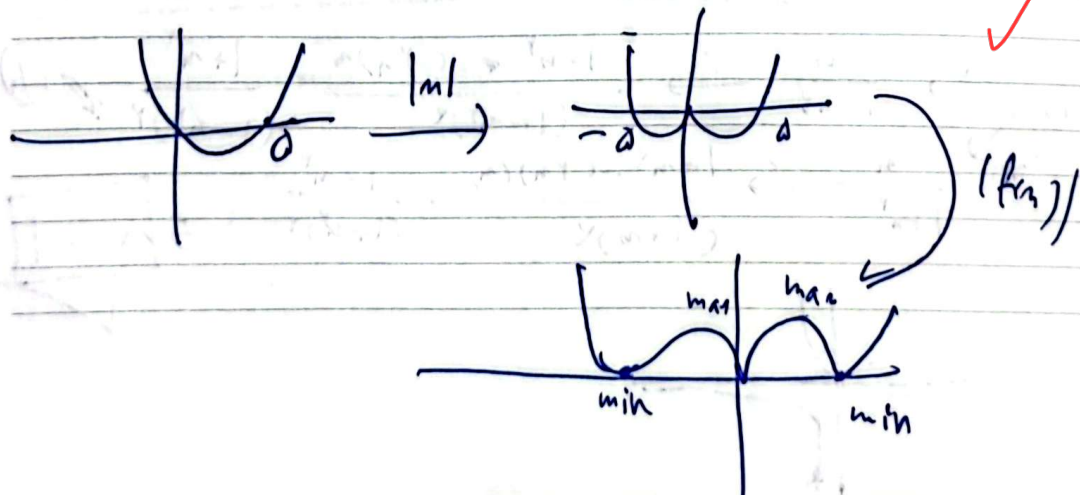


$$f(m) = m^2 + am - 2b \rightarrow f'(m) = 2m + a = 0 \Rightarrow m = -\frac{a}{2}$$

$f(0) = -2b = 0 \Rightarrow b = 0$
 $f(-\frac{a}{2}) = \frac{a^2}{4} - \frac{a^2}{2} - 2b = -\frac{a^2}{4} = 0 \Rightarrow a = 0$

$f(0) \rightarrow -2$
 $f(-1) \rightarrow -1 + 1 - 2 = 0$
 $\Rightarrow \sqrt{a^2 + a^2} = \sqrt{2a^2} = a\sqrt{2}$

$$f(m) = m^2 - \frac{a}{m} \Rightarrow h = \frac{a}{m} \Rightarrow \frac{h}{m} = \frac{1}{a}$$

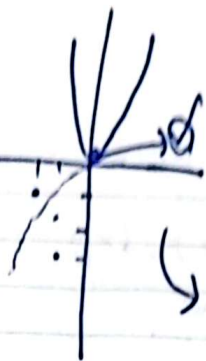


$$y = |x(m+1)| \quad f'(m) = \begin{cases} m+1 & m > 0 \\ -m+1 & m < 0 \end{cases}$$

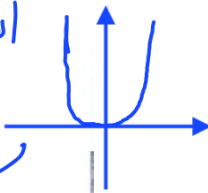
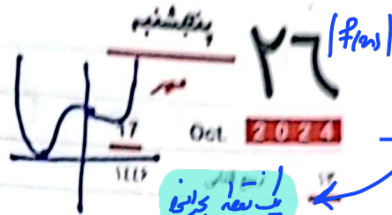
$$\rightarrow f'(-) = f'(+) = 1$$

$$m > 0 \rightarrow m^2 + 1m + 0$$

$$m < 0 \rightarrow -m^2 + 1m \quad \begin{array}{c|c|c} 0 & -1 & -1 \\ \hline 0 & -1 & -1 \end{array}$$



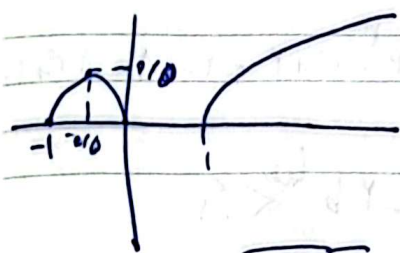
① (9) $\frac{1}{m}$



$$f(m) = \sqrt[m]{m^2} \quad |m-a| \rightarrow \frac{2(a-m)}{m^2 \sqrt[m]{m}} = 0$$

m	0	a
y	0	0

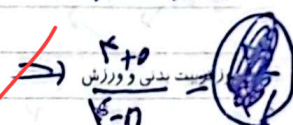
$$\rightarrow \sqrt[m]{\frac{2a^2}{m^2}} \left(\frac{m}{a} \right) = 1$$



$$m=1 \quad y = \sqrt{m|m-m|}$$

$$h=0$$

$$k=1$$



$$m > 0 \rightarrow \sqrt{m^2 - m}$$

$$m < 0 \rightarrow \sqrt{-m^2 - m}$$

0	1	2	1
0	0	2	0

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$$y' = \frac{m(m-1) - 2}{(m+1)^2} \rightarrow m^2 - m - 2$$

$$m < 1 \rightarrow m > 0$$

$$m = 0$$

$$f(m) \xrightarrow{m > 0} \frac{m}{1-m^2} \rightarrow \frac{1-m^2 - (-2m)m}{(1-m^2)^2} = \frac{1+m^2}{(1-m^2)^2}$$

$$f(m) \xrightarrow{m < 0} \frac{m}{1+m^2} \rightarrow \frac{1+m^2 - (-2m)m}{(1+m^2)^2} = \frac{1-m^2}{(1+m^2)^2}$$

