

گروه اول (میان)

تلف سازه ۲۵

آثار زیادتر

$$f'(a) = \frac{f(a) - f(a)}{a - a} \rightarrow \frac{1 - \frac{a}{x} - 1 + a}{x - 1} = \frac{\frac{x-a}{x}}{x-1} = \frac{1}{x} \cdot \frac{x-a}{x-1} \quad (1)$$

$$\frac{1}{x} \cdot \frac{x-a}{x-1} = \frac{1}{x} \rightarrow a = x - 1 \rightarrow a = \sqrt{x}$$

$$y = 2ax^2 - 4x + 11a \quad (2)$$

$$y_r = x \rightarrow 2ax^2 - 4x + 11a = x \rightarrow 2ax^2 - 5x + 11a = 0$$

$$\Delta = 0 \rightarrow 25 - 44a^2 = 0 \rightarrow a^2 = \frac{25}{44} \rightarrow a = \pm \frac{5}{\sqrt{44}}$$

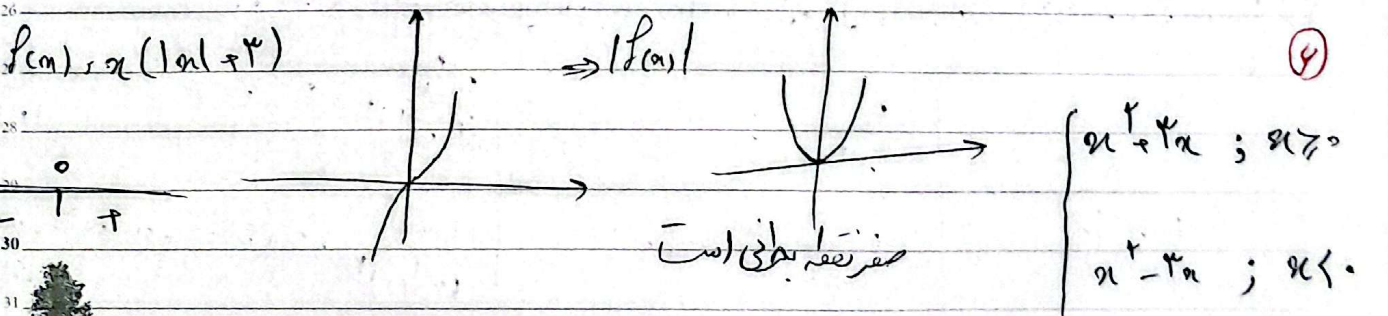
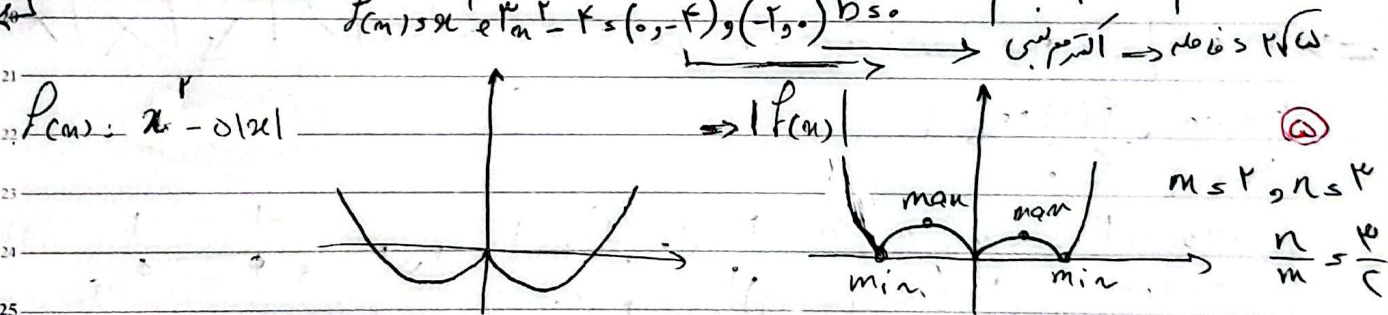
$$y = x^2 - 12x + 2 \rightarrow y' = 2x - 12 \rightarrow x = 6$$

	$x < 6$	$x = 6$	$x > 6$
$y'$	+	0	-
$y$	↗	↘	↗

$f(x) = \min$  پس  $f(6) = -14$

$$y = x^2 + ax^2 - 2bx - f \rightarrow y' = 2ax^2 + 2ax - 2b$$

	$x < -\frac{1}{a}$	$x = -\frac{1}{a}$	$x > -\frac{1}{a}$
$y'$	+	0	-
$y$	↗	↘	↗



$$f(x) = \sqrt[p]{x^r} |x-a| \xrightarrow{x \leq a} f(x) = \sqrt[p]{a^r} (a-x) \Rightarrow f'(x) = \left( \frac{r}{\sqrt[p]{a^r}} (a-x) \right) \sqrt[p]{a^r} \quad (9)$$

$$\left( \frac{r}{\sqrt[p]{a^r}} (a-x) \right) \sqrt[p]{a^r} \Rightarrow \frac{r}{\sqrt[p]{a^r}} (a-x) \sqrt[p]{a^r} \Rightarrow r a - r x = r a \Rightarrow x = \frac{r a}{r}$$

$$\Rightarrow f\left(\frac{r a}{r}\right) = \frac{r}{r} \Rightarrow \sqrt[p]{\frac{r a^r}{r}} \times \frac{r a}{r} = \frac{r}{r} \Rightarrow \sqrt[p]{\frac{r a^r}{r}} = 1 \Rightarrow \frac{r a^r}{r} = 1$$

$$\Rightarrow r a^r = r \Rightarrow a^r = \frac{r}{r} \Rightarrow a = \frac{r}{r}$$

(A)

$$f(x) = \sqrt[p]{|x-a|} \xrightarrow{\text{صحيح عزيز}} f(x) \begin{cases} \sqrt[p]{x^r - a} ; x > a \\ \sqrt[p]{a - x^r} ; -1 < x < 0 \end{cases} \Rightarrow f'(x) \begin{cases} \frac{r x^{r-1}}{\sqrt[p]{x^r - a}} ; x > a \\ -\frac{r x^{r-1}}{\sqrt[p]{a - x^r}} ; -1 < x < 0 \end{cases}$$

①  $f'(x) = 0 \Rightarrow r a - 1 = 0 \Rightarrow a = \frac{1}{r}$  و ②  $r \sqrt[p]{a - x^r} = 0 \Rightarrow a - x^r = 0 \Rightarrow a = x^r$

③  $f'(x) = 0 \Rightarrow -r x^{r-1} = 0 \Rightarrow x = \frac{1}{r}$  و ④  $-r x^{r-1} = 0 \Rightarrow -a - x^r = 0 \Rightarrow a = -x^r$

$\Rightarrow K \in \left\{ -1, \frac{1}{r}, 0 \right\} \Rightarrow K \in \mathbb{R}$  بعد نقطه الرسم

$x$	$-1$	$\frac{1}{r}$	$0$	$1$
$f'(x)$	X	+	-	X
$f(x)$	X	↗	↘	X

$\Rightarrow m = \frac{1}{r} \Rightarrow m \in \mathbb{R}$  و  $n = 0$  و  $\frac{K n + n}{K - n} = \frac{f(1) + 0}{f - 0} = 1$

$y = \frac{m a + r}{a - 1 + m} \Rightarrow y' = \frac{m^r}{(a + (m-1))^r} \leq 0 \Rightarrow m^r - a - r \leq 0 \Rightarrow m^r - a - r \leq 0$  (9)

①  $1 - m < 1 \Rightarrow m > 0 \Rightarrow$  ① و ②  $m \in [0, 1]$  و  $m \neq 1 \Rightarrow m \leq 0, 1$   $m \in [-1, 2]$

$$f(x) = \frac{a}{|x-a|} \Rightarrow f(x) \begin{cases} \frac{a}{1-a^r} ; a > 0 \\ \frac{a}{1+a^r} ; a < 0 \end{cases} \Rightarrow f'(x) \begin{cases} \frac{a^r + 1}{(1-m^r)^2} ; a > 0 \\ \frac{1-a^r}{(a^r+1)^2} ; a < 0 \Rightarrow -a^r = 0 \Rightarrow a = \pm 1 \end{cases}$$

① نفس الشيء

