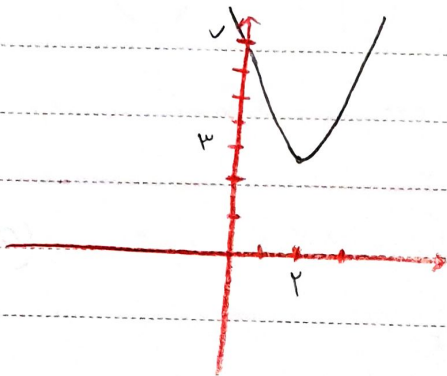
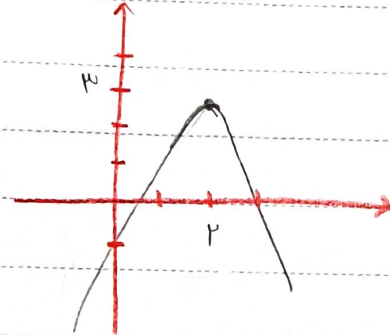


الف) ext $\left| \begin{array}{l} -\frac{b}{2a} = 2 \\ f-1+V=3 \end{array} \right|$, $\Delta < 0$



ب) ext $\left| \begin{array}{l} -\frac{b}{2a} = 2 \\ -f+1-1=3 \end{array} \right|$, $\Delta > 0$



الف) $2m^2 + (m+1)a + \frac{1}{2}m + 2 = 0$, $\Delta > 0 \rightarrow (m+1)^2 - 1(\frac{m}{2} + 2) > 0$ (2)

$m^2 + 1 + 2m - (\frac{m}{2} + 2) > 0 \Rightarrow m^2 - 2m - 1 > 0 \rightarrow (m-a)(m+3) > 0$

ب) $\Delta = 0 \rightarrow$ $m \in \{-3, a\}$

ج) $\Delta < 0 \rightarrow m \in (-3, a)$ (5)

د) $\Delta \geq 0 \rightarrow m \in (-\infty, -3] \cup [a, +\infty)$

الف) $\Delta > 0 \rightarrow f(m+1)^2 - f(m-2) > 0 \rightarrow fm^2 + 1m + 4 - f(m+1) > 0$ (3)

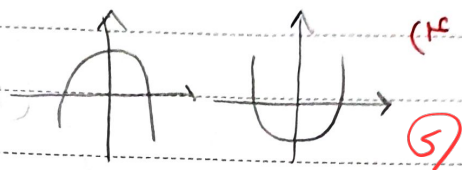
$\rightarrow fm^2 - 32m + 1f > 0$, $\Delta < 0 \rightarrow$ $\frac{1}{m-2} > 0 \rightarrow m > 2$

$-\frac{b}{a} < 0 \rightarrow \frac{4m+4}{m-2} < 0$ $-1 < m < 2$ $\textcircled{1} \cap \textcircled{2} \cap \textcircled{3} \rightarrow \emptyset$

ب) $\Delta > 0 \rightarrow$ $\frac{c}{a} < 0 \Rightarrow m < 2$ (5)

$-\frac{b}{a} < 0 \rightarrow -1 < m < 2 \rightarrow m \in (-1, 2)$

الف) $\Delta > 0 \rightarrow$ جوابی و $\frac{c}{a} < 0 \rightarrow m < 2$



ب) $\frac{-b}{2a} = -2 \rightarrow -x(m+1) = \frac{r}{x}(m-2) \rightarrow -m-1 = 2m-2 \Rightarrow m=1$

$\Delta \geq 0 \rightarrow (2 \sin \alpha)^2 - 4 \geq 0 \Rightarrow 2 \sin \alpha \geq 2 \text{ و } 2 \sin \alpha \leq -2$ (5)

$\sin \alpha = \pm 1 \xrightarrow{\sin \alpha = 1} \frac{r}{x} x^2 - 2x + \frac{r}{x} = 0 \Rightarrow x = \frac{r}{x}$
 $\xrightarrow{\sin \alpha = -1} \frac{r}{x} x^2 + 2x + \frac{r}{x} = 0 \Rightarrow x = -\frac{r}{x} \text{ غرض}$ (5)

10. $x^2 - 2x - 1 = 0 \xrightarrow{a+b+c} x=1, x=-1$
 $x^2 - 2x - 2 = 0 \xrightarrow{a+c=b} x=-1, x=\frac{5}{x}$
 $-x^2 + \frac{13x}{5} + \frac{5}{5} = 0 \xrightarrow{\times 5} -5x^2 + 13x + 5 = 0$ (5)

$y_{\max} = \frac{-\Delta}{2a} = -\frac{(199+120)}{-2 \times 2} = \frac{159.5}{2}$ (5)

15

$3S = 2P + V \rightarrow 3(\frac{m+2}{m}) = 2(\frac{-2}{m}) + V \Rightarrow \frac{3m+6}{m} = \frac{-4}{m} + V \Rightarrow V = \frac{3m+10}{m}$ (5)
 م صفر نیست چون معادله درجه دوم است و می توان از آن دو جواب گرفت!

$\frac{f\alpha}{a\beta^2} + \frac{\beta^2}{a} \rightarrow \frac{\beta^2}{a} + \frac{f\alpha \times \alpha^2}{a \times f} \rightarrow \frac{\beta^2 + \alpha^3}{a} \rightarrow \frac{5^3 - 3 \times 5 \times 2}{a}$ (5)
 $\alpha, \beta = 2 \Rightarrow \beta = \frac{2}{\alpha}$
 $\frac{1 \times 5 - 3}{5} = 19$

20

$c=f \xrightarrow{x=-3} 9a - 3b + f = (2 \times (-3)) + 1 \Rightarrow 9a - 3b = -5$ (5)
 $\xrightarrow{x=2} 4a + 2b + f = (2 \times 2) + 1 \Rightarrow 4a + 2b = 5$
 $\xrightarrow{\text{ضرب اول}} \frac{-b}{2a} = -1.5$

25

$\Delta = 0 \rightarrow m^2 - 1(m+4) = 0 \rightarrow m^2 - m - 4 = 0$ (1)
 $\rightarrow (m+1)(m-4) = 0 \Rightarrow m = -1, m = 4 \text{ غرض}$ (5)