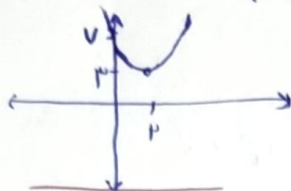


الف) $y = m^2 - 4m + 4$

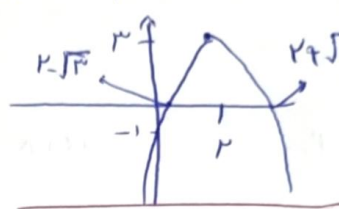
$\frac{-b}{2a} = \frac{4}{2} = 2, \frac{-\Delta}{4a} = 1$



$\Delta \leq 0 \rightarrow y \geq 0$

ب) $y = -m^2 + 4m - 1$

$\frac{-b}{2a} = \frac{4}{-2} = -2, \frac{-\Delta}{4a} = 1$



$m = \frac{-4 \pm 2\sqrt{3}}{-2} = 2 \pm \sqrt{3}$

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

$m^2 - 2m + 0 > 0 \rightarrow \frac{-m \pm \sqrt{m^2}}{1} \rightarrow m \in (-\infty, -3) \cup (3, +\infty)$

ب) $\Delta \leq 0 \rightarrow (m+3)(m-5) \leq 0$

$m \in [-3, 5]$

الف) $\Delta < 0 \rightarrow (m-5)(m+3) < 0$

$m \in (-3, 5)$

ب) $\Delta > 0 \rightarrow (m-5)(m+3) > 0$

$m \in (-\infty, -3] \cup [5, +\infty)$

الف) $\Delta > 0, p > 0, s < 0$

$\Delta > 0 \rightarrow m^2 - 4m + 4 > 0 \rightarrow (m-2)^2 > 0 \rightarrow m \neq 2$

$p > 0 \rightarrow \frac{1}{m-2} > 0 \rightarrow m > 2$

$s < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow \frac{-1}{1} < \frac{2}{-1} \rightarrow -1 < m < 2$

$\textcircled{1} \cap \textcircled{2} \cap \textcircled{3} = \emptyset$

ب) $\Delta > 0 \rightarrow$ معادله مثبت و درجه دوم

$p < 0 \rightarrow$ اندک کنیم $\frac{1}{m-2} < 0 \rightarrow m < 2$

$s < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow \frac{-1}{1} < \frac{2}{-1} \rightarrow -1 < m < 2$

$\textcircled{1} \cap \textcircled{2} \cap \textcircled{3} = m \in (-1, 2)$

الف) برای اینکه از هر یک نامبر بزرگتر یا مساوی باشد و در هر دو وقت نامبر

$p < 0 \rightarrow \frac{1}{m-2} < 0 \rightarrow m < 2$

$\Delta > 0 \rightarrow$ معادله برقرار ✓ $\rightarrow$ توپ در هر دو

$\textcircled{1} \cap \textcircled{2} = m < 2$

ب) $\frac{-b}{2a} = -2, \frac{b}{2a} = 1 \rightarrow$

$m+1 = -2m+3 \rightarrow m = 1$

$m \in \{1\}$

$\frac{2m^2}{3} - 4\sin \alpha m + \frac{4}{3} \leq 0 \rightarrow \Delta \geq 0 \rightarrow 16\sin^2 \alpha - 4 \geq 0 \rightarrow \sin^2 \alpha \geq \frac{1}{4}$

$\sin \alpha = \pm \frac{1}{2}$

$\frac{2m^2}{3} - 4m + \frac{4}{3} = 0, \frac{2m^2}{3} + 4m + \frac{4}{3} \leq 0 \rightarrow \Delta \leq 0 \rightarrow 16 \leq \frac{b}{4a} = \frac{16}{3} \rightarrow$

$\Delta \leq 0 \rightarrow 16 \leq \frac{b}{4a} = \frac{16}{3} \rightarrow$

$$y_s = \frac{(r_{an}^T - r_{an} - 1)(r_{an}^T - r_{an} - a)}{1 - a^T} = \frac{(\bar{a} - 1)(r_{an} + 1)(a + 1)(r_{an} - a)}{(1-a)(1+a)} =$$

$$-9a^T + 11r_{an} + a \rightarrow \frac{-b}{r_a} = \frac{1r}{1r} \rightarrow \frac{-a}{r_a} = \frac{r_{an}q}{r_p}$$

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$$m_{an}^T - (m+T)a - r_s \rightarrow S = \alpha + \beta, \beta = \alpha\beta \rightarrow r_s = \alpha\beta + V$$

$$\frac{r_{m+T}}{m} = \frac{-1_0}{m} + V \rightarrow m = T \rightarrow r_{an}^T - 4a - T = 0 \rightarrow S = \frac{r}{T}, \beta = \frac{1}{T}$$

$$\alpha^T + \beta^T = S^T - T\beta = \frac{q}{T} + 1 = \frac{1r}{T}$$

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$$a^T - da + T = 0 \rightarrow \beta = T \rightarrow q\beta \rightarrow a = \frac{T}{\beta} \rightarrow a^T = \frac{T^2}{\beta^T}, \beta^T = \frac{T}{a^T}$$

$$\frac{r_a + B^0}{\omega B^T} = \frac{r_a}{\omega B^T} + \frac{B^0}{\omega} = \frac{\frac{r_a}{1}}{\frac{\omega \times T}{a^T}} = \frac{q^T}{\omega} \rightarrow \frac{q^T}{\omega} + \frac{B^0}{\omega} =$$

$$\left(\frac{S^T - TSP}{\omega} \right) = \frac{1}{\Phi} (1K\partial - r_{an}T\partial) = 1q$$

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$$y_1 = a_{an}^T + b_{an} + C \quad y_T = r_{an} + 1 \rightarrow a = T, y = 1T \rightarrow a_{an} = y_{an}^T$$

$$a_{an} = T, y = T \rightarrow a_{an} = y_{an}^T$$

$$a_{an}^T + b_{an} + T = y \rightarrow a = T \rightarrow T a + T b = 1 \rightarrow T a + b = \omega$$

$$a_{an}^T + b_{an} + T = y \rightarrow a = T \rightarrow q a - T b = 0 \rightarrow r a - b = 0$$

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$$\frac{-b}{r_a} = \frac{-r}{T}$$

$$y = r_{an}^T + (m+1)a + m+T \rightarrow \Delta = 0 \rightarrow m^T - 1m - T = 0 \rightarrow (m-T)(m+T) = 0$$

$$m = 1T \rightarrow r_{an}^T + 1r_{an} + 1T \rightarrow a = -T \rightarrow \text{دالة}$$

$$-T \rightarrow r_{an}^T - Tm + T \rightarrow a = 1 \rightarrow \text{دالة}$$

$$m = -T$$

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