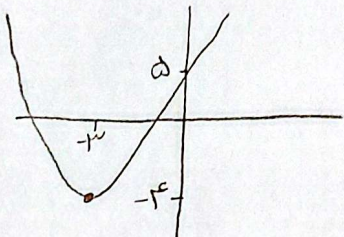
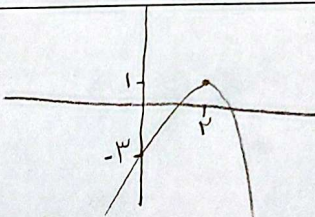


ext $\left \begin{array}{c} -\frac{b}{2a} \\ \Delta \\ 4ac \end{array} \right 0$	$y = x^2 + 4x + 5$ $ax^2 + bx + c$ $-\frac{b}{2a} = -2$ $y = (-2)^2 + 4(-2) + 5 = -1$	الف) $[-2, 2]$ ، $Min \leq a > 0$ 	۱
ext $\left \begin{array}{c} -\frac{b}{2a} \\ \Delta \\ 4ac \end{array} \right 0$	$y = -x^2 + 4x - 3$ $-\frac{b}{2a} = \frac{-4}{-2} = +2$ $y = -(2)^2 + 4(2) - 3 = 1$	الف) $[1, 3]$  ب) ریشه‌های معادله $\begin{bmatrix} 1 \\ 0 \end{bmatrix} \begin{bmatrix} 3 \\ 0 \end{bmatrix}$ ✓	۲
$\Delta = (-3)^2 - 4(1)(a) = 9 - 4a \rightarrow 9 - 4a > 0 \Rightarrow 4a < 9 \Rightarrow a < \frac{9}{4} = 1,125$ $\rightarrow a = 1 / -2$ ✓	$\Delta = 9 - 4a \rightarrow 9 - 4a = 0 \Rightarrow 9 = 4a \Rightarrow a = \frac{9}{4} = 1,125$ ✓	الف) باید $\Delta > 0$	۳
$\Delta = 9 - 4a \rightarrow 9 - 4a < 0 \Rightarrow 9 < 4a \Rightarrow a > \frac{9}{4} = 1,125 \rightarrow a = 2 / 3$	$\Delta = 9 - 4a \rightarrow 9 - 4a \leq 0 \Rightarrow 4a \leq 9 \Rightarrow a \leq \frac{9}{4}$ $a \leq 1,125 (1\frac{1}{4})$	ب) $\Delta = 0$	۴
الف) $x^2 - 2x - 1 = 0$ $x^2 - 2x + 1 = 2$ $(x-1)^2 = 2$ $x-1 = \pm\sqrt{2}$ $x = 1 + \sqrt{2} / 1 - \sqrt{2}$	ب) $x^2 - x - 1 = 0$ $x^2 - x + \frac{1}{4} = \frac{5}{4}$ $(x - \frac{1}{2})^2 = \frac{5}{4}$ $x - \frac{1}{2} = \pm\sqrt{\frac{5}{4}}$ $x = \frac{1 + \sqrt{5}}{2} / \frac{1 - \sqrt{5}}{2}$	ج) $\Delta < 0$	۵
الف) $x^2 - 2x - 1$ $\frac{-b \pm \sqrt{\Delta}}{2a} \rightarrow \frac{-(-2) \pm \sqrt{(-2)^2 - 4(1)(-1)}}{2(1)}$ $= \frac{2 \pm \sqrt{4+4}}{2} = \frac{2 \pm 2\sqrt{2}}{2} = \frac{2(1 \pm \sqrt{2})}{2}$ $= 1 \pm \sqrt{2}$	$x^2 + x - 4 = 0$ $\frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-1 \pm \sqrt{1+16}}{2} = \frac{-1 \pm \sqrt{17}}{2}$ $\frac{-1 + \sqrt{17}}{2} / \frac{-1 - \sqrt{17}}{2}$	د) $\Delta \geq 0$	۶

الف) $x^2 - 11x + 21 = 0$ $(x-4)(x-7) = 0$ $x = 4$ $x = 7$ لیکنا ضروری	ب) $x^2 + 3x - 21 = 0$ $(x+7)(x-4) = 0$ $x = -7$ $x = 4$	3
الف) $5x^2 - 12x + 7 = 0$ $a+c+b=0 < \frac{c}{a}$ $x = 1$ $x = \frac{7}{5}$	ب) $3x^2 - 10x + 7 = 0$ $a+c+b=0 < \frac{c}{a}$ $x = 1$ $x = \frac{7}{3}$	7
الف) $2x^2 - 5x + 3 = 0$ $a+c+b=0 < \frac{c}{a}$ $x = 1$ $x = \frac{3}{2}$	ب) $2x^2 + 5x + 3 = 0$ $a+c=b < \frac{-1}{-c/a}$ $x = -1$ $x = -\frac{3}{2}$	ج) $2x^2 - 5x + 1 = 0$ $\Delta \rightarrow \frac{-b \pm \sqrt{\Delta}}{2a}$ $\Rightarrow \frac{5 \pm \sqrt{25-4}}{4}$ $\frac{5+\sqrt{17}}{4} / \frac{5-\sqrt{17}}{4}$
د) $4x^2 + 7x + 9$ $\frac{-b \pm \sqrt{\Delta}}{2a}$ $\frac{-7 \pm \sqrt{49-144}}{8}$ حقیقی نہیں رادیكال نہیں دو حقیقی جذبات	1	
$x^2 - 3x - 2 = 0$ $\frac{-b \pm \sqrt{\Delta}}{2a} = \frac{3 \pm \sqrt{17}}{2}$ $S = \frac{3+\sqrt{17}}{2} + \frac{3-\sqrt{17}}{2} = \frac{-b}{a} = (3)$ $P = \frac{c}{a} = (-2)$	الف) $S^2 - 2P = (3)^2 - 2(-2) = 9 + 4 = (13)$ ب) $S^3 - 3SP = (3)^3 - 3(3)(-2) = 27 + 18 = (45)$	9
$\begin{pmatrix} V \\ 5 \end{pmatrix} = \begin{pmatrix} V \\ 2 \end{pmatrix} \rightarrow \begin{pmatrix} V \\ 2 \end{pmatrix} + \begin{pmatrix} 9 \\ 2 \end{pmatrix} = \frac{V \times 9^3}{x \times 1} + \frac{9 \times V^4}{x \times 1} = 21 + 36 = (57)$ $\frac{9^3 \times V^4}{x \times x \times 1} - \frac{9^4 \times V}{x \times 1} = 18 - 21 = (59)$	الف) 3 ب)	10