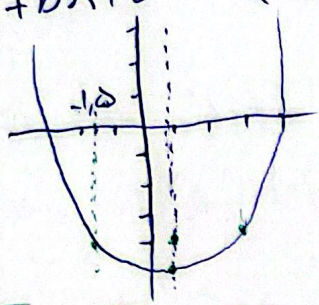


۱. $x^2 - 2x + 1 = 0 \quad B^2 = 2\beta - 2 \Rightarrow \alpha + \beta = 2$
 $\Rightarrow \alpha\beta = 1 \rightarrow \alpha = \frac{2}{\beta}$

$\frac{f\alpha + \beta^2}{2\beta^2} = \frac{\frac{A}{\beta} + \beta^2}{2\beta^2} = \frac{A + \beta^4}{2\beta^2} = \frac{A + 218\Delta\beta - 9\Delta A}{2(23\beta - 6)} = \frac{218\Delta - 9\Delta 0}{11\Delta\beta - 20} = \frac{47\beta - 190}{23\beta - 10} = 19$

۲. $y = ax^2 + bx + c \quad (-1, 20, -4) \quad (2, -4) \quad x_{ext} = \frac{(2-1)\Delta}{2} = 0, \forall \Delta \quad \frac{-b}{2a} = 1, \Delta$



۳. $x^2 + 2kx + \Delta = 0$ افشان ریشه! $\frac{\sqrt{\Delta}}{|a|} = \frac{4}{3}K \quad \left[\frac{K^2}{2}\right]$

$f(K^2 - x_0) = \Delta \quad \frac{-2K + \sqrt{4K^2 - x_0}}{2} = \frac{-2K - \sqrt{4K^2 - x_0}}{2} \quad \frac{-K + \sqrt{K^2 - \Delta}}{-K - \sqrt{K^2 - \Delta}}$
 $\sqrt{K^2 - \Delta} + K + \sqrt{K^2 - \Delta} = \sqrt{K^2 - \Delta} = \frac{4}{3}K \quad f(K^2 - x_0) = \frac{14}{9}K^2 \quad \frac{54}{9}K^2 - \frac{14}{9}K^2 = x_0$
 $\frac{x_0}{a}K^2 = x_0 \quad K^2 = 9 \quad \left[\frac{K^2}{2}\right] = \left[\frac{9}{2}\right] = 4.5$

۴. $y_{ext} = 1 \quad \left. \begin{matrix} x_{ext} = \frac{(-2+2)}{2} = -1 \end{matrix} \right\} \begin{matrix} ext \mid -1 \\ 1 \end{matrix} \quad \alpha + \beta = \frac{-b}{a} = \frac{-2a}{a} = -2$
 $(\alpha + \beta)^2 = \alpha^2 + \beta^2 + 2\alpha\beta$

$y = ax^2 + bx + c \quad y = 9a + 2b + c$
 $y = ax^2 + 2ax + c \quad y = 2\Delta a + \Delta b + c \quad \left. \begin{matrix} 14a = 1b \rightarrow 2a = b \end{matrix} \right\} \begin{matrix} f = \Delta + 2\alpha\beta \rightarrow 2\alpha\beta = -1 \\ \rightarrow \alpha\beta = -\frac{1}{2} = \frac{c}{a} \end{matrix}$
 $y = ax^2 + 2ax + c \rightarrow y = -2ex^2 - fex + c \quad 1 = -2c + fc \rightarrow 2c = 1 \rightarrow \alpha = -\frac{2e}{c} \rightarrow \boxed{C = \frac{1}{2e}}$

۵. $-x^2 + 2x + m = f(x)$
 $\Delta > 0 \rightarrow x_0 + f(m) > 0 \rightarrow f(m) > 2\Delta \Rightarrow m > \frac{2\Delta}{f} \rightarrow m > 4, 2\Delta \rightarrow 4$
 $f(t, \Delta) > 0 \rightarrow 2, f\Delta + 2f\Delta + m = f2, \forall \Delta + m > 0 \rightarrow m > -f2, \forall \Delta \left. \begin{matrix} f2+1=f9 \\ 4-(f2)+1=f9 \end{matrix} \right\}$

$y = mx^2 - 12x + 2m - 1$
 $r = \frac{-\Delta}{fa} = \frac{-1ff + 20m^2 - fm}{fm} \rightarrow 20m^2 - fm - 1ff = 1m \rightarrow 20m^2 - 1fm - 1ff = 0$
 $y = 2x^2 - 12x + 1f \rightarrow x_{ext} = \frac{12}{4} = 3$

$$x^2 + 2(a+1)x + 5a - 1 = 0$$

$$d : a, \beta \rightarrow \text{دنباله} \rightarrow d\beta = a^2 \rightarrow \frac{a}{\beta} = a^2 \rightarrow \frac{2a-1}{1} = a^2 \rightarrow a^2 - 2a + 1 = 0$$

$$\rightarrow a = 1 \rightarrow \text{مقادیر}$$

$$\left. \begin{array}{l} x^2 - \sqrt{x^2} - 2 = 0 \\ S = \frac{b}{a} = 1 \\ P = \frac{c}{a} = -2 \end{array} \right\} \Rightarrow 2p^2 - Sp + 5S = 20 - 2(-2) + 10 = 20 + 4 + 10 = 34$$

$$\frac{-\Delta}{2a} = \frac{-14 - 2fk}{2k} = -fk - f \rightarrow -\frac{f}{k} - 4 = -fk - f \Rightarrow -\frac{f}{k} - 2 = -fk \rightarrow k = \frac{1}{k} + \frac{1}{f}$$

$$kx^2 - 2 = k\left(\frac{1}{k^2} + \frac{1}{f} + \frac{1}{k}\right) - 2 = 0 \rightarrow \frac{1}{k} + \frac{1}{f}k - 1 = 0 \rightarrow 1 + \frac{1}{f}k - k = 0 \rightarrow k = 2$$

$$x_{ext} = \frac{f}{k} = 1 \rightarrow f - 4 = -1 \rightarrow y_{ext}$$

$$\left. \begin{array}{l} y = -mx^2 + m(x+1) \\ y = -x - m \end{array} \right\} +$$

$$-mx^2 + m(x+1) > -x - m \rightarrow -mx^2 + (m+1)x + m + 1 > 0 \rightarrow m > -1$$

$$-m - x = -mx^2 + m(x+1) \rightarrow -mx^2 + x + m(x+1) > 0$$

$$\rightarrow -mx^2 + (m+1)x + m + 1 > 0 \rightarrow m^2 + 2m + 1 + 4m^2 + 4m > 0$$

$$\rightarrow 5m^2 + 6m + 1 > 0 \rightarrow 5m^2 + 4m < -1 \rightarrow -1 < m < 0$$

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