

الف) $\min - n \leq 0 \rightarrow y = 0 - n_3 = \frac{1}{3} - y_3 = -\frac{1}{3}$ نام سوم

ب) $\max - n \leq 0 \rightarrow y = 0 - n_3 = 2 - y_3 = 4$ نام دوم

الف) $\min - n \leq 0 \rightarrow y = 2 - y_3 = -\frac{4}{n} - n_3 = \frac{8}{n}$ دو

ب) $\max - n \leq 0 \rightarrow y = -1 - y_3 = 2 - n_3 = 2$ یک

الف) $a+b = -\frac{b}{a} = -1 \mid a \cdot b = \frac{c}{a} = -3 \mid \frac{(a+b)^2}{(a-b)^2} = \frac{(1)^2}{(a+b)^2 - fab} = \frac{1}{13}$ نام سوم

ب) $(a+b)^2 - fab \sim (1)^2 + 4 = 5$ یک

ج) $(a-b)^2 = a^2 - b^2 - 2ab + fab^2 \mid (1)^2 = a^2 + b^2 + 2ab + fab^2 \rightarrow a^2 + b^2 + 1 = 0$

د) $\sqrt{13} = a^2 - b^2$

$n = 2 \rightarrow y = 0 \mid (n-2)(n^2 - an + a) \sim n^3 - an^2 + an - 2n^2 + 2an - 2a$

$\frac{n^3}{n} + (-2-a)\frac{n^2}{n} + (a+2)\frac{n}{n} - 2a = 0 \rightarrow n - n - fa + 2a + 2 - 2a = 0$

$-fa + 2 = 0 \rightarrow -fa = -2 \rightarrow a = 1$

$a^2 - ax + a \rightarrow 1 - x + 1 \rightarrow (x-2)^2 = x^2 - 4x + 4, a = 2 \mid I$

$a^2 - ax + a \rightarrow 1 - x + 1 \rightarrow \Delta = 0 \rightarrow x^2 - 2x + 1 = 0 \rightarrow (x-1)^2 = 0 \mid II$

$\alpha + \beta = -\frac{-12}{4} = 3 \rightarrow \beta = 3 - \alpha \mid I$

$3\alpha^2 + \beta^2 - 4\alpha = 0 \xrightarrow{I} 3\alpha^2 + (3-\alpha)^2 - 4\alpha = 0 \rightarrow 3\alpha^2 - 11\alpha + 9 = 0 \rightarrow \begin{cases} \alpha = 1 \\ \alpha = 3 \end{cases} \rightarrow a = 3$

$\frac{a}{\alpha_{max}} = \frac{-9}{4} = -\frac{9}{4}$

$$x_s = b = \frac{(v-ka) + (ka+r)}{r} = a \rightarrow S(a, v)$$

$$\left. \begin{array}{l} v-ka > 0 \rightarrow a < \frac{v}{k} \\ ka+r > 0 \rightarrow a > -\frac{r}{k} \\ a-r > 0 \rightarrow a > r \end{array} \right\} \xrightarrow{\text{استبدال}} a=r \rightarrow A(4,1), B(1,1)$$

$$(y-v) = a(x-a)^r \xrightarrow{(1,1)} (1-r) = a(1-a)^r \rightarrow a = \frac{1}{\lambda} \rightarrow (y-v) = \frac{1}{\lambda}(x-a)^r$$

$$x=0 \rightarrow (y-v) = \frac{1}{\lambda}(0-a)^r \rightarrow y = v - \frac{r}{\lambda} \rightarrow y = \frac{1}{\lambda} \rightarrow \text{نقطه} = \frac{1}{\lambda}$$

$$\begin{cases} ax^r - ax - b = 0 \\ ay^r - ay - b = 0 \end{cases} \quad S = \alpha + \beta = 1 \rightarrow \alpha = 1 - \beta$$

$$r \cdot \beta^r + r \cdot \alpha^r - r \cdot \beta = 1 \rightarrow r \cdot \beta^r + r \cdot (1-\beta)^r - r \cdot \beta - 1 = 0 \rightarrow \beta = \frac{r \pm \sqrt{r^2 - 4r}}{2r} = \frac{1 \pm \sqrt{1-r}}{r}$$

$$r \cdot \beta^r - r \cdot \beta + 1 = 0$$

$$\alpha - \beta = 1 - \beta - \beta = 1 - 2\beta \rightarrow 1 - r \left(\frac{1 \pm \sqrt{1-r}}{r} \right) = \pm \frac{r}{\sqrt{1-r}} \rightarrow \text{نقطه} = \frac{r}{\sqrt{1-r}}$$

$$v, \frac{1}{r} = x = \frac{-a+1}{r} = -r$$

$$\text{نقطه} = f(x) = a(x+r)^r - \frac{1}{r}$$

$$\rightarrow (0, \frac{1}{r}) \in f(x) \rightarrow \frac{1}{r} = a(0+r)^r - \frac{1}{r} \rightarrow a = \frac{1}{r}$$

$$\rightarrow (1, \beta) \in f(x) \rightarrow \beta = \frac{1}{r}(1+r)^r - \frac{1}{r} \rightarrow \beta = r$$

$$2x^r + 4x + a = 0 \rightarrow \begin{cases} S = \frac{-b}{a} = -4 \\ P = \frac{c}{a} = a \end{cases} \quad |\alpha - \beta| = \frac{\sqrt{\Delta}}{|\alpha|} = \sqrt{16 - 4a} \quad \alpha < \beta \rightarrow \alpha - \beta < 0$$

$$r\alpha^r + r\beta^r = 12\sqrt{r} + 16 \rightarrow \frac{r}{4}(\alpha^r + \beta^r) + \frac{1}{r}(\alpha - \beta)^r = 12\sqrt{r} + 16 \rightarrow \frac{r}{4}(S^r - P) + \frac{1}{r}(\alpha - \beta)(\alpha - \beta) = 12\sqrt{r} + 16$$

$$\rightarrow \frac{r}{4}(S^r - P) - \frac{1}{r}S\sqrt{16 - 4a} \rightarrow \frac{r}{4}(16 - 4a) - \frac{1}{r}(-4)\sqrt{16 - 4a} = 12\sqrt{r} + 16 \rightarrow 4 - 2a + 4\sqrt{16 - 4a} = 12\sqrt{r} + 16$$

$$\begin{cases} 4 - 2a = 16 \rightarrow a = -6 \\ 4\sqrt{16 - 4a} = 12\sqrt{r} \rightarrow 16 - 4a = 9r \rightarrow a = 1 \end{cases}$$

$$\frac{1}{\sqrt{a}} + \frac{1}{\sqrt{b}} = \delta \rightarrow \sqrt{a} + \sqrt{b} = \frac{1}{\delta} \xrightarrow{\text{نقطه}} a + b + \frac{\sqrt{ab}}{\frac{1}{\delta}} = \frac{1}{\delta}$$

$$\frac{c}{a} = a, b = \frac{1}{r^2} \quad \frac{-b}{a} = a + b = \frac{m+1}{r^2} \rightarrow m+1+r = ra \rightarrow m+r = ra \rightarrow m = -1$$

$$\text{نقطه} P = \frac{c}{a} = \frac{r}{m} = \frac{r}{-1} = -r$$

$$a + b = \frac{-r^2}{\sqrt{\delta}} \sim \frac{m+1}{r^2} = \frac{-r^2}{\sqrt{\delta}} \Rightarrow \sqrt{\delta} m + 1 \cdot \delta = -\sqrt{r^2} \Rightarrow \sqrt{\delta} m = -\sqrt{r^2}$$

$$\Rightarrow m = \sqrt{r^2} / \sqrt{\delta}$$

$$\frac{c}{a} = \frac{r}{\sqrt{r^2} / \sqrt{\delta}} \rightarrow \frac{1}{\sqrt{\delta}}$$

$$A = \sqrt{\frac{1}{x_1}} + \sqrt{\frac{1}{x_2}} = a \rightarrow A^r = \frac{1}{x_1} + \frac{1}{x_2} + r\sqrt{\frac{1}{x_1 x_2}} = \frac{x_1 + x_2}{x_1 x_2} + r\sqrt{\frac{1}{x_1 x_2}} = \frac{S}{P} + r\sqrt{\frac{1}{P}} = ra$$