

معادله را منفرد می‌کنند $\rightarrow$ ریشه α و β

$$\frac{4\alpha + \beta^5}{5\beta^2} = \frac{4\alpha}{5\beta^2} + \frac{\beta^3}{5}$$

$$\alpha^2 - 5\alpha + 2 = 0$$

$$\beta^2 - 5\beta + 2 = 0 \rightarrow \beta^2 = 5\beta - 2$$

$$\alpha + \beta = 5$$

$$x^2 - 5x + 2 = 0$$

$$\Delta = 25 - 4 \times 2 = 17$$

$$x = \frac{5 \pm \sqrt{17}}{2}$$

$$\frac{\alpha^3}{5} + \frac{\beta^3}{5} = \frac{\alpha^3 + \beta^3}{5} = \frac{(5)^3 - 3 \times (2)(5)}{5}$$

$$= 19$$

x نقطه $\rightarrow 3$ تا $-\frac{3}{2}$ راس $\leftarrow 5$

مجموع ریشه‌ها برابر با دو برابر محور تقارن

۲- نقطه $\begin{vmatrix} 2 \\ -4 \end{vmatrix}$ و $\begin{vmatrix} -\frac{3}{2} \\ -4 \end{vmatrix}$ روی یک صفحه

نقاط دارای عرض یکسان نقاط هم عرض هستند

و روی محور هم قرار دارند مجموع عرضها / محور ریشه‌هاست

$$\frac{-b}{2a} \Rightarrow 1,5$$

$$x^2 + 2kx + 5 = 0$$

$$\left[\frac{k^2}{2} \right] = 5$$

$$\frac{\sqrt{\Delta}}{|a|} = \frac{4}{3} k \rightarrow 4k^2 - 20 = \frac{16}{9} \rightarrow k^2 = 9$$

$$\begin{vmatrix} 3 \\ y \end{vmatrix} \begin{vmatrix} -5 \\ y \end{vmatrix}$$

$$\frac{-\Delta}{2a} = 10$$

رأس (۱ و -۱)

$$y = a(x^2 + 2x - \frac{1}{2})$$

$$\alpha^2 + \beta^2 = 5 \rightarrow (\alpha + \beta)^2 - 2\alpha\beta = 5$$

$$4 - 2\alpha\beta = 5$$

$$\frac{-b}{2a} = \frac{2-5}{2} = -1$$

$$\alpha\beta = \frac{1}{2} \rightarrow \frac{c}{a}$$

$$1 = (1 - 2 - \frac{1}{2})$$

$$a = \pm \frac{1}{3}$$

$$\frac{-b}{a} = -2$$

$$-x^2 + 5x + m = 0$$

$$\begin{array}{c|c|c} \alpha & & \beta \\ \hline - & + & - \end{array}$$

$$x = \frac{9}{2}$$

$$\Delta > 0 \Rightarrow 25 - 4 \times 1 \times m > 0$$

$$a < 0$$

$$m < \frac{25}{4}$$

$$\begin{array}{c} 0 \\ \hline -\frac{9}{4} \quad \frac{25}{4} \end{array}$$

$$25 < -3, -9, -5, -9$$

$$\frac{-25}{4} < m < \frac{-9}{4}$$

$$y = \underbrace{mx^r}_{\text{}} - 12x + \underbrace{\omega m - 1}_{12}$$

$$y = 12x^r - 12x + 12$$

$$\text{Min } y = 12$$

$$\frac{-b}{2a} = \frac{12}{4} = 3$$

$$\frac{-12\omega + 12m(\omega m - 1)}{12m} = 12 \rightarrow \omega m^r - 12m - 12\omega = 0$$

$$\frac{-b \pm \sqrt{\Delta}}{2a} = \frac{12 \pm 12\sqrt{1}}{4} = 3, -12$$

$$\alpha, \beta \quad x^r + r(a+r)x + ra - 1 = 0$$

$$\frac{ra - 1}{1} \rightarrow \alpha\beta = a^r \rightarrow ra - 1 = a^r \Rightarrow a^r - ra + 1 = 0$$

$$(a-1)^r = 0 \rightarrow a = 1$$

$$x^r - vx^r - \omega = 0 \rightarrow t = x^r$$

$$t^r - vt + -\omega = 0 \rightarrow rp^r - 12p + 12 = 0$$

$$+ = \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{v \pm \sqrt{r^2 + 12}}{r} = v \pm \sqrt{99}$$

$$r \times (v + \sqrt{99})^r = \frac{r}{\sqrt{v + \sqrt{99}} \times \sqrt{v + \sqrt{99}}} = \frac{-v - \sqrt{99}}{r}$$

$$y = kx^r - rx - 9 \rightarrow \Delta \left| \begin{array}{c} -b \\ 2a \end{array} \right| \frac{r}{k}$$

$$-r\left(\frac{r}{k}\right) - r \Rightarrow \frac{-r - rk}{k} = 0 \Rightarrow rk - r = 0 \Rightarrow k = r$$

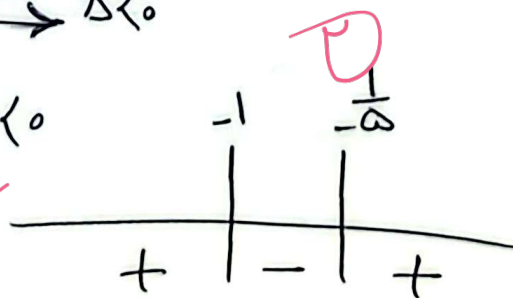
$$\frac{-r - rk}{k} = \frac{-r - 12}{r} = -1$$

$$-mx^r + mx + 1 = -m - x$$

$$mx^r + (-m - 1)x + 1 - m = 0 \rightarrow \Delta < 0$$

$$\omega m^r + 4m + 1 < 0 \rightarrow (m+1)(\omega m+1) < 0$$

$$m \in (-1, \frac{1}{\omega})$$



$$x^r = t \rightarrow t^r - vt - \Delta = 0 \rightarrow t = \frac{v \pm \sqrt{4q}}{r} \xrightarrow{x^r} x^r = \frac{v + \sqrt{4q}}{r}$$

$$x = \pm \sqrt{\frac{v + \sqrt{4q}}{r}} \leadsto s = 0, P = -\left(\frac{v + \sqrt{4q}}{r}\right)$$

$$rp^r - \underbrace{rsP}_0 + \underbrace{rs}_0 = rp^r = r\left(\frac{v + \sqrt{4q}}{r}\right)^r = \frac{1}{r}(4q + 4q + 1\sqrt{4q}) = 2q + v\sqrt{4q}$$