

$$g = a(u-h) + k$$

$S(h, k)$
محاس

$$g = a(u-(-1))^r + q$$

$$g = -\frac{1}{r}(u+1)^r + q$$

$$(r, 1) \Rightarrow 1 = r(a+1)^r + q$$

$$g = -\frac{1}{r}u^r - u + \frac{14}{r}$$

$$1 = 14q + 4$$

$$14 = -n \quad a = -\frac{1}{r}$$

$$ru^r + mu + m + 4 = 0$$

$$\Delta = m^2 - 4m + 4 > 0 \quad m = -r \quad m = 14$$

$$\Delta > 0$$

$$-r > m \quad m > 14$$

$$S > 0$$

$$-4 < m < -r$$

$$P > 0$$

شرط

$$S = -\frac{b}{a} = -\frac{m}{r} > 0 \quad m > 0$$

$$P = \frac{c}{a} = \frac{m+4}{r} > 0 \quad m > -4$$

$$\alpha + \beta = -\frac{b}{a}$$

$$\alpha \times \beta = \frac{c}{a}$$

$$\rightarrow -\frac{b}{\alpha} = \frac{\alpha}{c}$$

$$-b = c$$

$$-r(m+1) = r-m$$

$$-m = 1 \quad m = -1$$

$$-\frac{b}{a} = \frac{1}{\frac{c}{a}} \Rightarrow -\frac{r(m-1)}{r} = \frac{m-r}{m-r}$$

$$\Rightarrow -\frac{r(m-1)}{r} = \frac{r}{m-r} \Rightarrow -(r(m-1))(r-m) = 4 \rightarrow rm^2 - 2m + r = 4 \Rightarrow \Delta = r^2 + 4r = 14 \Rightarrow \frac{r+4}{r} \rightarrow m = -1 \rightarrow m = \frac{r}{r}$$

$$u^r - u - r = 0 \rightarrow u^r = u + r \quad u_1 + u_2 = -\frac{b}{a} \quad u_1^r + u_2^r = \frac{r}{r} \quad S u + P = u^r - \frac{1}{r}u - \frac{r}{r} = \frac{r}{r} \Rightarrow \frac{r}{r}u^r - \frac{1}{r}u - \frac{r}{r} = \frac{r}{r}$$

$$u^r = u^r(u) = u(u+r) = u^r + ru \quad y_1 + y_2 = \frac{r}{r} \quad y_1 \times y_2 = \frac{r}{r} \quad y_1 \times y_2 = \frac{r}{r} \quad y_1 \times y_2 = \frac{r}{r}$$

در دو صورت اول و دوم فرض است

$$u = (u+r) + ru = ru + r \quad y_1 \times y_2 = \frac{r}{r} \quad y_1 \times y_2 = \frac{r}{r} \quad y_1 \times y_2 = \frac{r}{r} \quad y_1 \times y_2 = \frac{r}{r}$$

$$u_1^r + \frac{1}{u_1} = ru_1 + r + \frac{1}{u_1} \rightarrow u_1 u_2 = \frac{c}{a} = -r \rightarrow \frac{1}{u_2} = \frac{u_1}{-r} = \frac{u_1}{-r} = \frac{u_1}{-r}$$

$$\sqrt[r]{u} = t \Rightarrow \sqrt[r]{u^r} = t^r \Rightarrow (t^r + \frac{1}{t^r} + 1)(t^r - 1) = rt$$

$$t^r + \frac{1}{t^r} + 1 = \frac{1+t^r+t^r}{t^r} \Rightarrow \frac{1+t^r+t^r}{t^r} = \frac{t^r+t^r+1}{t^r} (t^r-1) = rt$$

$$(t^r-1)(t^r+t^r+1) = t^4-1 = \left\{ rt = \frac{t^4-1}{t^r} \right\} \times t^r \quad u_1 = 1+\sqrt{r} \quad u_2 = 1-\sqrt{r} \quad u_1 + u_2 = 2$$

قبل و بعد

$$r \cdot t^r = t^4-1$$

$$t^r = y \Rightarrow y^r - ry - 1 = 0 \rightarrow y = \frac{1+\sqrt{r}}{r} \quad y = t^r = u$$

$$u_1 = \sqrt{u_2}$$

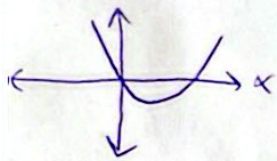
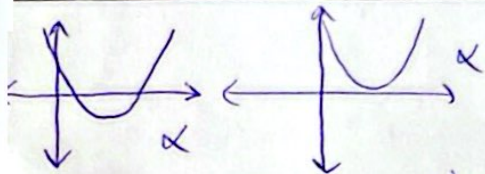
$$u_1 \times u_2 = \frac{c}{a} = \frac{r}{p} \rightarrow u_1 \times u_2 = \sqrt{u_2} \times u_2 = \sqrt{u_2}^2 = \frac{r}{p}$$

$$u_2 = \frac{r}{a} \quad u_2 = \pm \frac{r}{p} \quad u_1 = \pm \frac{r}{p} \times \sqrt{p} = \pm \sqrt{r}$$

$$u_1 + u_2 = \frac{a}{p} \rightarrow r + \frac{r}{p} = a = 1$$

$$-r - \frac{r}{p} = -\frac{1}{p} = a = -1$$

$$\text{اختلاف} = 1 - (-1) = 2$$



ناحیه ۳ یعنی $y > 0$ و $x > 0$ را از ریشه ها است ریشه دیگر

ای باشد $a < 0$ باشد درجه ۳ است و در هر صورت دارد ناحیه ۳ می شود چون ریشه دیگر نیز منفی می شود و تابع دارد ناحیه ۳ می شود پس $a > 0$ باشد

$$\left\{ \begin{array}{l} -\frac{r+a}{a} < 0 \\ -\frac{r+a}{a} > 0 \end{array} \right\} \rightarrow -\frac{r+a}{a} < 0 \rightarrow r+a < 0 \rightarrow a < -\frac{r}{p}$$

$$\text{مقدور تقارن} \Rightarrow -\frac{b}{2a} = \frac{+r}{+r} = \frac{+a}{r} \Rightarrow a = r$$

$$y = x^2 + ax - r \Rightarrow y = 1 \Rightarrow 1 = x^2 + rx - r \rightarrow (x+r)(x-1) \left\{ \begin{array}{l} x=1 \\ x=-r \end{array} \right.$$

$$\left. \begin{array}{l} x=1 \Rightarrow y = -1 - r + b = b - r \\ x=-r \Rightarrow y = -r + 4 + b = b - r \end{array} \right\} \Rightarrow \text{طبیعی و صحیح}$$

$$b - r = 1 \quad b = r \quad a = r \quad a \times b = r \times r = 1$$

$$x = y + \frac{1}{r} \rightarrow rx^2 - ax + b = \frac{x}{y + \frac{1}{r}} \rightarrow r(y + \frac{1}{r})^2 - a(y + \frac{1}{r}) + b = 0$$

$$\text{بسط درجه دوم} \rightarrow ray^2 + ay - 4 = 0 \rightarrow \text{باید مضرب از معادله ۲ باشد} \rightarrow \text{ریشه های برابر شدند}$$

$$r^2 = 4a = 4 \Rightarrow a = 1$$

$$b = b - \frac{1}{r} + \frac{1}{r} = -4 \quad -4 \times 1 = -4 \quad \left[\frac{-4}{r} \right] = \left[-1, 1 \right] = -2$$

$$\left. \begin{array}{l} A = F^2 + 4F + m = 0 \\ B = F^2 + 2F - 3m = 0 \end{array} \right\} \xrightarrow{B-A} rF + km = 0$$

$$\begin{array}{l} m + F = 0 \\ m = -F \end{array} \rightarrow \text{منفی ریشه مشترک} \quad \begin{array}{l} x^2 + 4x + a = 0 \\ (x+1)(x+a) = 0 \\ x = -1 \text{ و } x = -a \end{array}$$

$$F \text{ ایسی } m \Rightarrow F + 4F - F = 0 \quad \text{اختلاف} = 3 - (-1) = 4 \quad \begin{array}{l} x^2 + 2x - 1 = 0 \\ x = -1 \text{ و } x = 1 \end{array}$$

$$F(F+a) = 0 \quad \text{چون } F \neq 0 \rightarrow m = -r \Rightarrow r = -a \Rightarrow m = a$$