

۱. $\beta = \alpha \beta + \gamma \Rightarrow \beta' - \alpha \beta + \gamma = 0 \rightarrow \beta' = \alpha \beta - \gamma$

$\beta'' = \beta' \times \beta' = (\alpha \beta - \gamma)(\alpha \beta - \gamma)$

$= 11\alpha\beta' - 44\beta + 20 \xrightarrow{\beta' = \alpha\beta - \gamma} 11\alpha\beta - 10$

$\frac{4\alpha + \beta''}{\alpha\beta'} = \frac{4(\alpha - \beta) + \beta''}{\alpha\beta'} = \frac{4\alpha\beta - 10}{\alpha\beta - 10} = \frac{4(\alpha\beta - \gamma)}{\alpha(\alpha\beta - \gamma)} = \boxed{19} \checkmark$

۲. $S = -\frac{b}{a} = \alpha \Rightarrow \alpha + \beta$

$\alpha = \alpha - \beta$

$\beta'' = \beta' \times \beta'$

$\beta = \alpha\beta' - \gamma\beta$

$= 2\alpha\beta - 10 - 2\beta$

$= 24\beta - 10$

۲. چون دو نقطه u و v را در خط قرار می دهیم:

$\frac{u + u'}{2} = 10 \Rightarrow$ محور تقارن

$\frac{u + (-11d)}{2} = 10 \Rightarrow$ محور تقارن

$\frac{u_1 + u_2}{2} = 10 \Rightarrow u_1 + u_2 = 20 \Rightarrow \boxed{11d} \checkmark$

$|\alpha - \beta| = \frac{\sqrt{\Delta}}{|\alpha|} = \sqrt{\Delta} \Rightarrow \Delta = (k\alpha)^2 - 4(1)(\alpha) = 4k^2 - 40 \Rightarrow \frac{4}{k}k = \sqrt{4k^2 - 40}$

$\frac{14}{9}k^2 = 4k^2 - 40 \xrightarrow{\times 9} 14k^2 - 360 = 36k^2 \rightarrow 20k^2 = 360 \rightarrow k^2 = 18$

$\frac{k^2}{2} = \frac{4}{2} = 2 \Rightarrow [2, 18] = \boxed{2} \checkmark$

۳. $u = \frac{3 + (-5)}{2} = -1 \Rightarrow \frac{\alpha + \beta}{2} = -1 \Rightarrow \alpha + \beta = -2$

$\alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta \Rightarrow 4 = 4 - 2\alpha\beta \Rightarrow \alpha\beta = -1$

$y = (x - u)(x - v) \xrightarrow{u = -1} y = (x + 1)(x - \beta) \xrightarrow{u = -1} u = \frac{\alpha + \beta}{2} = -1$

$y = (-1 - k - 1)(\alpha - \beta) \rightarrow k = -\frac{1}{k} \times k = 1 \rightarrow k = -\frac{1}{k}$

$k = 0 \rightarrow (x + 1)(x - \beta) = y = k\alpha\beta = (-\frac{1}{k})(-1) = \frac{1}{k} \checkmark$

$-u^2 + \alpha u + m = 0 \xrightarrow{\times -1} u^2 - \alpha u - m = 0$

$\Delta = 4\alpha + 4m \geq 0 \rightarrow 4m \geq -4\alpha \Rightarrow m \geq -\alpha$

$\frac{\sqrt{4\alpha + 4m} \pm \alpha}{2} \xrightarrow{\text{آن یکه بزرگتر از ۰ نباشد}} \frac{\sqrt{4\alpha + 4m} + \alpha}{2} < \frac{4}{2}$

$\sqrt{4\alpha + 4m} + \alpha < 4 \Rightarrow \sqrt{4\alpha + 4m} < 4 - \alpha \rightarrow 4\alpha + 4m < 16$

$4m < -4\alpha \Rightarrow m < -\alpha \Rightarrow -4 \leq m \leq -2 \checkmark \rightarrow$ عدد صحیح

این مقدار تابع در واقع در همان آس سری و ی آن است

$$u_0 = \frac{4}{m}$$

$$y_0 = m \left(\frac{4}{m} \right)^2 - 12 \left(\frac{4}{m} \right) + 5m - 1$$

$$= -\frac{44}{m} + 5m - 1 = 2$$

$$\left(-\frac{44}{m} + 5m = 3 \right) \times m$$

$$m = \frac{44 \pm 10}{10}$$

$$m = 3$$

$$m = -\frac{12}{5} \times$$

$$u_0 = \frac{4}{m} = \frac{4}{3} = \boxed{2}$$

باید متوجه
باشید

$$5m^2 - 3m - 34 = 0$$

$$\Delta = \sqrt{9 + 440} = 21$$

$$\alpha + \beta = -2(\alpha + 1) \quad \alpha \beta = 2\alpha - 1$$

$$\alpha \beta = \alpha^2 \rightarrow \alpha^2 = 2\alpha - 1$$

$$\rightarrow \alpha^2 - 2\alpha + 1 = 0$$

$$(\alpha - 1)^2 = 0 \rightarrow \boxed{\alpha = 1}$$

$$u^2 = t \quad t^2 - Ut - 5 = 0$$

$$t = \frac{U \pm \sqrt{U^2 + 4 \times 5}}{2} = \frac{U \pm \sqrt{49}}{2}$$

$$u^2 = \frac{U - \sqrt{49}}{2} \rightarrow u = \pm \frac{U - \sqrt{49}}{2}$$

$$u^2 = \frac{U + \sqrt{49}}{2} \rightarrow u = \pm \frac{U + \sqrt{49}}{2}$$

$$S = 0 \rightarrow \text{ریشه ها دو برابرند}$$

$$2P^2 - 3SP + 2S = 2(-5)^2 - 3(0)(-5) + 2(0)$$

$$\frac{C}{a} = \frac{-5}{1} = -5$$

$$u_0 = -\frac{b}{2a} = -\frac{-4}{2k} = \frac{4}{2k} = \frac{2}{k}$$

$$y = k \left(\frac{2}{k} \right)^2 - 4 \left(\frac{2}{k} \right) - 4 = \frac{4k}{k^2} - \frac{8}{k} - 4 = \frac{4}{k} - \frac{8}{k} - 4 = -\frac{4}{k} - 4$$

$$y = -2x - 4$$

$$-\frac{4}{k} - 4 = -2 \left(\frac{2}{k} \right) - 4 = \frac{4}{k} - 4 \Rightarrow k = 2$$

$$y = -\frac{4}{2} - 4 = \boxed{-6}$$

$$-mu^2 + mu + 1 = -m - u$$

$$-mu^2 + mu + 1 + m + u = 0 \Rightarrow -\frac{m}{a}u^2 + \frac{(m+1)}{b}u + \frac{(m+1)}{c} = 0$$

$$\Delta = (m+1)^2 - 4(-m)(m+1) \Rightarrow \Delta = (m+1)(5m+1) < 0$$

$$m = -1$$

$$m = -\frac{1}{5}$$

$$-1 < m < -\frac{1}{5} \rightarrow$$

همیشه عدد صحیحی وجود ندارد

$$x' = t \rightarrow t' - vt - \omega = 0 \rightarrow t = \frac{v \pm \sqrt{49}}{v} \rightarrow x' = \frac{v \pm \sqrt{49}}{v} \quad - \Lambda$$

$$x = \mp \sqrt{\frac{v \pm \sqrt{49}}{v}} \rightarrow S = 0 \quad P = -\frac{v \pm \sqrt{49}}{v}$$

$$\gamma p' - \gamma S P + \gamma g = \boxed{\omega g + v \sqrt{49}}$$