

$$x^r - \omega x + \gamma = 0$$

$$\omega = \alpha + \beta, \alpha\beta = \gamma$$

$$\beta(\omega - \beta) = \gamma \quad \beta^r = \omega\beta - \gamma$$

$$(\alpha + \beta)^r = \gamma\omega = \alpha^r + \beta^r + \gamma\alpha\beta \Rightarrow \alpha^r + \beta^r = \gamma$$

$$\frac{\alpha^r + \beta^r}{\alpha\beta^r} = \frac{\alpha^r + \beta^r}{(\alpha + \beta)\beta^r} = \frac{\beta^r(\alpha^r + \beta^r)}{(\beta + \gamma)\beta^r}$$

$$\frac{(\alpha + \beta)(\alpha^r + \beta^r - \alpha\beta)}{(\alpha + \beta)} = \gamma - \gamma = 0 \quad \checkmark$$

$$\frac{\gamma - \omega}{\gamma} = \frac{\gamma}{\gamma\omega}$$

$$-\frac{b}{ra} = \frac{\gamma}{\gamma\omega}$$

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

$$x^r + rx + \omega = 0$$

$$\frac{\omega}{\gamma} k^r = \omega \Rightarrow k^r = \gamma$$

$$\alpha - \beta = \frac{\gamma}{\gamma} k = \frac{\sqrt{\Delta}}{191} = \sqrt{\Delta} \Rightarrow \sqrt{\gamma k^r - \gamma} = \frac{\gamma}{\gamma} k \Rightarrow \gamma k^r - \gamma = \frac{19}{9} k^r \Rightarrow k^r - \omega = \frac{\gamma}{9} k^r$$

$$\left[\frac{9}{\gamma}\right] = \left[\frac{19}{9}\right] = \frac{1}{9} \quad \checkmark$$

$$\frac{\gamma - \omega}{\gamma} = -1 = \frac{b}{ra}$$

$$\alpha + \beta = -\frac{b}{a} = -\gamma \Rightarrow \alpha^r + \beta^r + \gamma\alpha\beta = \gamma \Rightarrow \gamma\alpha\beta = -1 \Rightarrow \alpha\beta = -\frac{1}{\gamma} = \frac{c}{a}$$

$$-\frac{\Delta}{fa} = 1 = \frac{-b^r + fac}{fa} = \frac{-fa^r + \gamma a + \frac{a}{\gamma}}{fa} = \frac{-\gamma a^r}{fa} = -\frac{\gamma}{r} \frac{a}{a} = 1 \Rightarrow a = -\frac{\gamma}{r}$$

$$b = ra \quad c = -\frac{a}{\gamma} \quad \Rightarrow c = -\frac{-\frac{\gamma}{r}}{\gamma} = \frac{1}{r} \quad \checkmark$$

نتیجی عرض از مبدا $(0, \frac{1}{r})$

$$-x^r + \omega x + m = 0$$

$$x = \frac{-b \pm \sqrt{\Delta}}{ra} = \frac{\omega \pm \sqrt{\omega + fm}}{\gamma} \Rightarrow \frac{\omega \pm \sqrt{\omega + fm}}{\gamma} < \frac{9}{\gamma}$$

$$\omega + \sqrt{\omega + fm} < 9 \Rightarrow ra + fm < 19 \Rightarrow m < \frac{9}{r} = \frac{1}{19}$$

$$\omega - \sqrt{\omega + fm} < 9 \Rightarrow -\sqrt{\omega + fm} < 9 - \omega \Rightarrow \sqrt{\omega + fm} > -9 + \omega \Rightarrow \sqrt{\omega + fm} > 0 \Rightarrow \omega + fm > 0 \Rightarrow fm > -\omega \Rightarrow m > -\frac{\omega}{f} = \frac{1}{19}$$

$$\{9, -\omega, -f, -r\} \Rightarrow \frac{1}{r} \text{ مینیمم} \quad \checkmark$$

$$y = mx^r - rx + \omega m - 1$$

$$\min \left| -\frac{b}{ra} = \frac{1}{r} \right|$$

$$x = \frac{1}{r} = \frac{1}{19} \quad \checkmark$$

$$1x^r - fm(\omega m - 1) = -\Delta m$$

$$\Rightarrow 1x^r - \gamma\omega m^2 + fm = -\Delta m$$

$$\gamma\omega - \omega m^2 + m = -\gamma m$$

$$\Rightarrow \omega m^r - \gamma m - \gamma\omega = 0 \Rightarrow m^r - \gamma m - 19 = 0$$

$$(m - 19)(m + 1) = 0 \quad m = \frac{1}{19}, m = -\frac{1}{19} = -\frac{1}{r}$$

$$x^r + r(a+1)x + ra - 1 = 0$$

$$\alpha\beta = a^r = \frac{c}{a} \Rightarrow a^r = ra - 1 \Rightarrow a^r - ra + 1 = 0 \Rightarrow (a-1)^r = 0 \Rightarrow a = 1 \quad \checkmark$$

$$x^r - vx^r - \omega = 0 \Rightarrow x^r = \frac{\omega}{1 - v} \Rightarrow t^r - vt - \omega = 0$$

$$\Delta = 49 - 4 \times 1 \times -\omega = 9$$

$$t = \frac{v \pm \sqrt{49}}{r} \Rightarrow \frac{v - \sqrt{49}}{r}$$

$$x = \pm \sqrt{\frac{v + \sqrt{49}}{r}}$$

$$S = 0 \quad \rho = \frac{v - \sqrt{49}}{r}$$

$$rp^r - r^2 sp + rs = \frac{49 + 49 + 1\sqrt{49}}{\gamma} = \omega\gamma + v\sqrt{49} \quad \checkmark$$

$$y = kx^r - rx - 9$$

$$-\frac{b}{ra} = \frac{f}{rk} = \frac{r}{k}$$

$$y = \frac{f}{k} - \frac{1}{k} - 9 = -\frac{f}{k} - 9$$

$$y = -fx - 4 \Rightarrow -\frac{1}{k} - f$$

$$-\frac{1}{k} - f = -\frac{f}{k} - 9 \Rightarrow r = \frac{f}{k} \Rightarrow k = r$$

$$y = -\frac{f}{r} - 9 = -1 \quad \checkmark$$

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

$$y = -m - x$$

$$-mx^r + m + 1 = -m - x \Rightarrow mx^r - (m+1)x - (m+1) = 0$$

$$\Delta = 0 \Rightarrow (m+1)^r + fm(m+1) < 0 \Rightarrow (m+1)(\omega m + 1) < 0$$

$$-\frac{1}{\omega} - \frac{1}{\gamma} + \frac{1}{\gamma} = -\frac{1}{\omega}$$

$$-\frac{1}{\omega} < m < -1 \quad \checkmark$$

مقدار صحیح وجود ندارد $\checkmark$