

۳۱۹

$$x^2 - \omega x + 2 = 0 \rightarrow \frac{-b}{a} = -\omega \Rightarrow \alpha + \beta \rightarrow \alpha\beta = 2 \rightarrow \alpha = \frac{2}{\beta} \rightarrow \beta + \frac{2}{\beta} = \omega$$

$$\begin{aligned} \alpha + \beta^3 &= \alpha + \left(\frac{2}{\beta}\right)^3 = \frac{\alpha}{\omega\beta^2} + \frac{2^3}{\omega\beta^3} \xrightarrow{\div \omega\beta^2} \frac{\alpha}{\omega\beta^2} + \frac{2^3}{\omega} \rightarrow \frac{1}{\omega} \left(\beta^3 + \frac{2^3}{\beta^3} \right) \\ \left(\beta + \frac{2}{\beta} \right)^3 - (9) \left(\beta + \frac{2}{\beta} \right) &= 128 - 9\omega = 9\omega \rightarrow \frac{1}{9} \times 9\omega = \underline{19} \end{aligned}$$

$$(19 - 4) \text{ و } (-4 - 19)$$

$$x = \frac{3 - 1/5}{5} = \frac{1/5}{5} = 0.1\omega$$

$$\frac{\alpha + \beta}{5} = 0.1\omega \rightarrow \alpha + \beta = \underline{0.5\omega}$$

$$x^2 - 2Kx + \omega = 0 \rightarrow \alpha + \beta = 2K - 1, \alpha\beta = \omega$$

$$\alpha - \beta = \frac{4}{5}K \rightarrow (\alpha - \beta)^2 = (\alpha + \beta)^2 - 4\alpha\beta \rightarrow \left(\frac{4}{5}K\right)^2 = (2K - 1)^2 - 4\omega$$

$$\rightarrow 16K^2 = 20K^2 - 4\omega \rightarrow K^2 = 9$$

$$\left[\frac{K^2}{5}\right] = ? \rightarrow \frac{9}{5} \checkmark$$

$$\left[\frac{K^2}{5}\right] = \left[\frac{9}{5}\right] = [1.8] = 1 \quad \text{پس نه}$$

$$x_0 = \frac{3 - \omega}{5} = -1$$

$$y = a(x - h)^2 + 1 \rightarrow h = -1 \rightarrow y = a(x + 1)^2 + 1$$

$$y = 0, a(x + 1)^2 + 1 = 0 \rightarrow \alpha + \beta = -2, \alpha\beta = \frac{1}{a}$$

$$(\alpha^2 + \beta^2) = \omega \rightarrow \alpha^2 + \beta^2 = 8 + 2P \rightarrow \omega = (-2)^2 - 2\left(\frac{1}{a}\right) \rightarrow a = -2$$

$$\rightarrow y = -2(x + 1)^2 + 1 \xrightarrow{x=0} y = -2(1) + 1 = -1 \rightarrow (0, -1)$$

$$-x^2 + \omega x + m = 0$$

$$\Delta \geq 0$$

$$2\omega + 4m \geq 0 \rightarrow m \geq \frac{-2\omega}{4}$$

$$x_0 = \frac{\omega}{4}$$

$$x = \frac{q}{4} \rightarrow -\left(\frac{q}{4}\right)^2 + \omega\left(\frac{q}{4}\right) + m < 0$$

$$\rightarrow -\frac{q^2}{16} \leq m < \frac{q}{4}$$

$$m < -\frac{q}{4}$$

$$\rightarrow m = -\frac{q}{4} \text{ و } -\frac{q}{4} - 1$$

$$y = m x^r - 1 x + \omega m - 1$$

$$x = -\frac{b}{r a} \rightarrow x_s = \frac{1^r}{r m} = \frac{1}{m}$$

$$x = \frac{1}{m}, m \left(\frac{1}{m} \right)^r - 1 \left(\frac{1}{m} \right) + \omega m - 1 \Rightarrow -\frac{r}{m} + \omega m - 1 = 1 \rightarrow \omega m^r - \omega m - 1 \neq 0$$

$$\rightarrow \frac{r \pm \sqrt{r^2 + 4}}{2} < r \rightarrow a > 0 \rightarrow m = 1 \rightarrow x = \frac{1}{m} = \frac{1}{1} = 1$$

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

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

$$a = \frac{1}{r}, r \left(\frac{1}{r} \right) - 1 = 0 \rightarrow \alpha \beta = 0 \rightarrow x^r + r x = 0 \rightarrow x(x+r) = 0$$

$$\beta = \frac{a^r}{a} = 0 \rightarrow \left(\frac{1}{r}, 0, 0 \right) \rightarrow a = \frac{1}{r}$$

$$x^r - v x^r - \omega = 0 \rightarrow y = x^r \rightarrow \Delta = r^2 + 4 = 49 \rightarrow y = \frac{r \pm \sqrt{49}}{2} > 0$$

$$r p^r - r s p + r s = ? \rightarrow r p^r \rightarrow x = \frac{r \pm \sqrt{r^2 + 4}}{2}$$

$$p = \frac{-v + \sqrt{49}}{2} \rightarrow r \left(\frac{v + \sqrt{49}}{2} \right)^r = \omega 9 + v \sqrt{49}$$

$$x = \frac{f}{r k} = \frac{r}{k}$$

$$y = r \left(\frac{r}{k} \right)^r - f \left(\frac{r}{k} \right) - y = \frac{f}{k} - \frac{\Lambda}{k} - y \rightarrow -\frac{f}{k} - y = y$$

$$y = -f \left(\frac{r}{k} \right) - f = -\frac{\Lambda}{k} - f \rightarrow -\frac{\Lambda}{k} - f = y$$

$$\rightarrow -\frac{f}{k} + \frac{\Lambda}{k} = -f + y \rightarrow k = 2 \rightarrow y_{\text{sub}} = -\frac{f}{2} - y = -2 - y = -1$$

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

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

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

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$$x_3 = \frac{x-a}{r} = -1 \leadsto -\frac{b}{ra} = -1 \leadsto -\frac{b}{a} = -r = 5 \quad \text{طول راس مهر میانی دو نقطه ای هم عرض است (مثل مهر! مقبول نیست ...)}$$

$$مهری = (y-1) = a(n+1)^2 \leadsto y = an^2 + ran + a + 1$$

$$a^2 + b^2 = 5^2 - 2p \leadsto (-r, r - 2p) \in A \rightarrow p = -\frac{1}{r} \leadsto \frac{a+1}{a} = -\frac{1}{r} \leadsto ra + r = -a \rightarrow a = \frac{r}{r+1}$$

$$محل ازب = a - 1 \leadsto -\frac{r}{r} + 1 = \frac{1}{r}$$

$$p = \alpha\beta = ra - 1$$

$$\alpha \times \beta = a^2 \rightarrow ra - 1 = a^2 \rightarrow a^2 - ra + 1 = 0 \rightarrow (a-1)^2 = 0 \rightarrow \boxed{a=1}$$

چک کردن اینکه برای $a=1$ $r=2$ $\Delta = 14-4 > 0$ ✓