

19, 25 آمار

$$x^2 - \omega x + 1 = 0 \Rightarrow \frac{\alpha + \beta}{\omega \beta} = ?$$

$$\begin{cases} \beta^2 - \omega \beta + 1 = 0 \\ \beta^2 = \omega \beta - 1 \end{cases}$$

$$\alpha + \beta = \omega \quad \alpha \times \beta = 1$$

$$\alpha = \omega - \beta$$

$$\frac{\alpha}{\omega \beta} + \frac{1}{\omega} \beta \Rightarrow \frac{\alpha}{\omega} \times \frac{\omega - \beta}{\omega \beta - 1} + \frac{1}{\omega} \beta \cdot \beta \Rightarrow \frac{\alpha}{\omega} \times \frac{\omega - \beta}{\omega \beta - 1} + \frac{1}{\omega} (\omega \beta - 1)$$

$$\Rightarrow \frac{1 - \alpha \beta}{\omega (\omega \beta - 1)} + \frac{\omega \beta - 1}{\omega (\omega \beta - 1)} \Rightarrow \frac{1 - \alpha \beta + \omega \beta - 1}{\omega (\omega \beta - 1)} \Rightarrow \frac{\omega \beta - \alpha \beta}{\omega (\omega \beta - 1)} = \frac{\omega \beta (1 - \alpha)}{\omega (\omega \beta - 1)}$$

$$y = ax^2 + bx + c \Rightarrow \begin{cases} -4 = 9a + 4b + c \\ -4 = 1,2a - 1,5b + c \end{cases}$$

$$\begin{cases} 9,17a - 4,5b = 0 \\ b = -1,5a \end{cases}$$

$$S = \frac{-b}{a} = \frac{-(-1,5a)}{a} = +1,5$$

$$a - \beta = \frac{r}{p} k \quad x^2 + 2kx + \omega = 0$$

$$\left[\frac{kr}{p} \right] = ? \Rightarrow \left[\frac{9}{18} \right] = 4$$

(سوال 2)

$$\Delta = (2k)^2 - 4(\omega)(1) = 4k^2 - 4$$

$$\frac{\sqrt{\Delta}}{2a}$$

$$\frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-2k \pm \sqrt{4k^2 - 4}}{2} \Rightarrow \frac{-2k + \sqrt{4k^2 - 4}}{2} - \left(\frac{-2k - \sqrt{4k^2 - 4}}{2} \right)$$

$$\Rightarrow \frac{-2k + \sqrt{4k^2 - 4} + 2k + \sqrt{4k^2 - 4}}{2} = \frac{2(\sqrt{4k^2 - 4})}{2} = \frac{2(2\sqrt{k^2 - 1})}{2} = 2\sqrt{k^2 - 1}$$

$$(\sqrt{4k^2 - 4})^2 = \left(\frac{2}{p} k \right)^2 \Rightarrow 4k^2 - 4 = \frac{4k^2}{9} \Rightarrow 36k^2 - 36 = 4k^2 \Rightarrow 32k^2 = 36 \Rightarrow 8k^2 = 9 \Rightarrow k^2 = \frac{9}{8}$$

$$مقادیر = \frac{-b}{2a} = \frac{-\omega + p}{2} = -1 \Rightarrow S = \frac{-b}{2a} = -1$$

$$\begin{pmatrix} \omega & p \\ 1 & 1 \end{pmatrix} \begin{pmatrix} h \\ k \end{pmatrix}$$

(سوال 4)

$$y = a(x+h)^2 + k \Rightarrow y = a(x+1)^2 + 1 \Rightarrow ax^2 + a + 2ax + 1$$

$$x^2 + \beta^2 = \omega \rightarrow S^2 - 2p = \omega \rightarrow 1 - 2\left(\frac{a+1}{a}\right) = \omega \quad \frac{1a - 2}{a} = 1 \rightarrow a = \frac{2}{p}$$

$$y = \frac{2}{p}(x+1)^2 + 1 \rightarrow \frac{2}{p} + \frac{4}{p} = \frac{6}{p}$$

سوال (5)

$$x_1, x_2 \Rightarrow \frac{-\omega \pm \sqrt{2\omega + \varepsilon m}}{-1} < \frac{-4}{\varepsilon} \Rightarrow \omega + \sqrt{2\omega + \varepsilon m} < 4 \rightarrow 2\omega + \varepsilon m < 14$$

$$m < \frac{14}{\varepsilon}$$

$$\Delta > 0 \Rightarrow 2\omega + \varepsilon m > 0 \Rightarrow m > \frac{-2\omega}{\varepsilon}$$

$$\Rightarrow \frac{-2\omega}{\varepsilon} < m < \frac{14}{\varepsilon}$$

$$\rightarrow \frac{-14}{\varepsilon}, \frac{-4}{\varepsilon}, \frac{-14}{\varepsilon}, \frac{-14}{\varepsilon} \Rightarrow -4, -\omega, -4, -4$$

(مقدار)

$$\Delta < 0 \quad \left\{ \begin{array}{l} \frac{-b}{2a} \Rightarrow \frac{+12}{2(m)} = \frac{12}{2m} = \frac{4}{m} \Rightarrow m = \frac{4}{3} = 1.33 \\ \frac{-\sqrt{\Delta}}{2a} \Rightarrow \frac{b^2 - 4ac}{4a} = \frac{144 - 4(m)(\omega m - 1)}{4a} \end{array} \right. \quad \text{سوال (4) } 1.18$$

$$y = mx^2 - 12x + \omega m - 1$$

$$\omega m^2 - 3m - 34 = 0 \rightarrow \frac{3 \pm \sqrt{V^2 - 4\omega}}{2\omega} \quad \omega_1 = \frac{3 + 27}{2} = 15$$

$$x_5 < \frac{-b}{2a} = \frac{12}{2(m)} = 2$$

$$\alpha \times \beta = a^2 \rightarrow 2a - 1 = a^2 \rightarrow 2a - 1 - a^2 = 0 \Rightarrow (a-1)^2 = 0 \rightarrow a = 1$$

$$\alpha + \beta = -2(a+1) \quad \alpha + \beta = 2a - 1 \Rightarrow \alpha = \frac{2(a-1)}{1} - \beta \rightarrow a = 1 - \beta$$

$$\alpha, a, \beta$$

سوال (1)

$$x^2 - Vx + \omega = 0 \Rightarrow x = \frac{V \pm \sqrt{V^2 - 4\omega}}{2}$$

$$\Delta = b^2 - 4ac \quad \left\{ \begin{array}{l} S = \frac{-b}{a} = \frac{-(-V)}{1} = V \\ P = \frac{c}{a} = \frac{\omega}{1} = \omega \end{array} \right. \quad \begin{array}{l} 2p^2 - 3Sp + 2S \\ 2(-\omega)^2 - 3(V)(-\omega) + 2(V) \end{array}$$

$$\Rightarrow \omega + 15\omega + 14 = 179$$

سوال ۹

$$y = Kx^2 - Kx - 4 \xrightarrow{\text{میزان گیری}} \frac{-b}{2a} = \frac{+K}{2K} = \frac{1}{2}$$

$$\xrightarrow{\text{میزان گیری}} \frac{-\Delta}{4a} = \frac{-(b^2 - 4ac)}{4a} = \frac{-(14 - 4(K)(-4))}{4K} = \frac{-14 + 16K}{4K} = \frac{-K - 4}{K}$$

$$y = -Kx - K \Rightarrow \frac{-K}{K} - 4 = -K \left(\frac{1}{K} \right) - K \Rightarrow \frac{-K}{K} = 2 \rightarrow K = 2$$

میزان گیری: $\frac{-K}{K} - 4 = \frac{-2}{2} - 4 = -2 - 4 = -6$ ✓

سوال ۱۰

$$\left. \begin{array}{l} y = -mx^2 + m + 1 \\ y = -m - x \end{array} \right\} \Rightarrow \begin{array}{l} -mx^2 + m + 1 = -m - x \\ -mx^2 + m + 1 + m + x = 0 \\ -mx^2 + (m+1)x + (m+1) = 0 \end{array}$$

$$(-mx^2 + (m+1)x + (m+1) = 0) \times (-1) \Rightarrow mx^2 - (m+1)x - (m+1) = 0$$

$$\Delta < 0 \Rightarrow b^2 - 4ac = [-(m+1)^2 - 4(m)(-m-1)]$$

$$\Delta = (m+1)^2 + 4m(m+1) < 0 \Rightarrow (m+1)[(m+1) + 4m] < 0$$

$$(m+1)(5m+1) < 0 \rightarrow m < -1$$

$$5m^2 + \underbrace{m+5m+1}_{4m} < 0 \rightarrow m < -\frac{1}{5} \Rightarrow -1 < m < -\frac{1}{5}$$

← در مجموع مایل بازه وجود ندارد

$$x^2 = t \rightarrow t^2 - vt - \Delta = 0 \rightarrow t = \frac{v \pm \sqrt{49}}{2} \xrightarrow{x^2} x = \frac{v \pm \sqrt{49}}{2}$$

$$x = \pm \sqrt{\frac{v \pm \sqrt{49}}{2}} \leadsto S = 0, P = -\left(\frac{v \pm \sqrt{49}}{2}\right)$$

$$\underbrace{1P^2 - 4SP + 4S^2}_{0} = 1P^2 = 1\left(\frac{v \pm \sqrt{49}}{2}\right)^2 = \frac{1}{4}(49 + 49 + 1 \pm \sqrt{49}) = 25 \pm \sqrt{49}$$