

11/3

برای یافتن

سوال (1)

$$y = (a-1)x^2 + x + 3$$

$$x = \frac{-b}{2a} = \frac{-1}{2(a-1)}$$

$$\Rightarrow \frac{-1}{2(a-1)} = 2 \Rightarrow -1 = 4(a-1) \Rightarrow -1 = 4a - 4$$

$$\Rightarrow a = \frac{3}{4}$$

طایفه ۱
«مار»

$$\left(\frac{3}{4} - 1\right)x^2 + x + 3$$
$$-\frac{1}{4}x^2 + x + 3$$

برای یافتن
حل بخور در سهمی مابعد و مقدار y

$$-\frac{1}{4}x^2 + x + 3 = 0 \Rightarrow x^2 - 4x - 12 = 0$$

برای یافتن

$$\Rightarrow (x-6)(x+2) = 0$$
$$\begin{cases} x = 6 \checkmark \leftarrow \text{حل} + \\ x = -2 \leftarrow \text{حل} - \end{cases}$$



ISATIS SOOME INNOVATION

سوال (۲)

λ	λ_1	λ_2
$f(\lambda)$	$-$	$+$

$$f(\lambda) = m\lambda^2 - d\lambda + m$$

① بررسی کنیم که آیا $f(\lambda)$ در $\lambda = 0$ مثبت است یا نه.

در اینجا $m > 0$ است.

$$f(0) = m > 0 \Rightarrow 2d - \varepsilon(m)/(m) > 0 \Rightarrow 2d - 4m^2 > 0$$

$$\Rightarrow 4m^2 < 2d \Rightarrow 2m < d \Rightarrow \frac{d}{2} < m < \frac{d}{2}$$

این تناقض است.

بنابراین $m < \frac{d}{2}$ و $-\frac{d}{2} < m < \frac{d}{2}$ را داریم.

سوال (۳)

$$\lambda_1 = \frac{3 - \sqrt{5}}{2}$$

$$\lambda_2 = \frac{3 + \sqrt{5}}{2}$$

$$f(x) = x^2 - 6x + 9$$

$$S = \lambda_1 + \lambda_2 = \frac{3 - \sqrt{5}}{2} + \frac{3 + \sqrt{5}}{2} = 3$$

$$P = \lambda_1 \cdot \lambda_2 = \left(\frac{3 - \sqrt{5}}{2}\right) \left(\frac{3 + \sqrt{5}}{2}\right)$$

$$\frac{9}{4} - \frac{5}{4} = \frac{4}{4} = 1$$



$$x^2 - 3x - \frac{1}{4}$$

$$r^2 - 1r + m + r = 0 \rightarrow \text{حل } \Rightarrow \alpha, \beta \quad (\text{سؤال ٤})$$

$$r\alpha + \beta = 1r \quad m = ?$$

$$\alpha + \beta = r$$

$$\beta = r - \alpha$$

$$\left\{ \begin{aligned} S &= \frac{-b}{a} = \frac{1}{r} = r \\ P &= \frac{c}{a} = \frac{m+r}{r} \end{aligned} \right.$$

دعوى $r\alpha + (r - \alpha) = 1r \Rightarrow r\alpha - 1\alpha + r = .$

$$\Rightarrow (r\alpha - \alpha) = 0 \Rightarrow \alpha = 1 \Rightarrow \beta = r - 1 = 3$$

$$\left\{ \begin{aligned} P &= \frac{m+r}{r} = 3 \Rightarrow m+r = 6 \\ P &= 1 \times 3 = 1 \times 3 = 3 \end{aligned} \right. \quad \alpha < \beta \checkmark$$

$$m = 3$$

$$S(r, q) \quad y = ar^2 + br + c \quad \underline{y = a(x-h)^2 + k} \quad (\text{سؤال ٥})$$

$$c = 5 \quad y = a(x-2)^2 + 9 \Rightarrow (0, 5) \quad 5 = a(0-2)^2 + 9$$

$$\Rightarrow 5 = 4a + 9 \Rightarrow 4a = -4 \quad a = -1$$

$$\Rightarrow y = -(x-2)^2 + 9 \quad \xrightarrow{\text{نقطة كل دائرة}} \quad -(2-2)^2 + 9 = .$$

$$x - 2 = \pm 3 \quad \left\{ \begin{aligned} x &= 5 \\ x &= -1 \end{aligned} \right.$$

$$(-1, 0), (5, 0)$$

$$\Rightarrow (-1, 5)$$

$a = -1$ دائرة محسوسة

$$\alpha x^2 - Vx + 9B = 0 \quad \alpha x^2 + bx + c = 0 \quad \alpha + \beta = \frac{-b}{a} \quad (\text{سؤال ٤})$$

$$\alpha + \beta = \frac{V}{\alpha}, \quad \alpha\beta = \frac{c}{a} \Rightarrow \frac{9\beta}{\alpha} = \cancel{\alpha}\beta = \frac{9}{\alpha}$$

$$\Rightarrow \alpha^2 = 9 \Rightarrow \alpha = \pm 3$$

$$\alpha = 3$$

$$\alpha = -3$$

$$\Rightarrow 3 + \beta = \frac{V}{3}$$

$$\Rightarrow -3 + \beta = \frac{-V}{3}$$

$$\beta = \frac{-2}{3}$$

$$\beta = \frac{2}{3} \checkmark$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{-1}{3} + \frac{2}{3} = \frac{V}{4}$$

جواب

$$x^2 + mx - 1m = 0$$

$$x^2 - m\beta = 1$$

$$f = ? \quad \frac{-b}{a} = \frac{-m}{1} = -m$$

(سوال ۷)

$$x^2 + mx - 1m = 0$$

$$x^2 = -1m - mx$$

$$1m - mx - m\beta = 1$$

$$(1m - mx) - m\beta = 1$$

$$1m - m(\alpha + \beta) = 1$$

$$\alpha + \beta = -m$$

$$\Rightarrow 1m - m(-m) = 1 \quad m^2 + 1m - 1 = 0$$

$$(m + 1)(m - 1) = 0 \quad \begin{cases} m_1 = -1 \\ m_2 = 1 \end{cases}$$

$$f = \begin{cases} m = -1 \Rightarrow S = 1 \\ m_2 = 1 \Rightarrow f = -1 \end{cases}$$



$$f(z) = mz^r + rz + \frac{m}{r} + v \quad k = ? \quad (\text{سؤال 1})$$

$$r_s = 1 \Rightarrow \frac{-b}{ra} = 1 \Rightarrow \frac{-r}{rm} = 1 \Rightarrow -r = 14m$$

$$\Rightarrow m = \frac{-\varepsilon}{14} = \left[\frac{-1}{\varepsilon} \right] \quad \frac{-1}{r} z^r + rz + \frac{\Delta \Delta}{1}$$

$$y = az^r + bz + c \Rightarrow S(r, y) \Rightarrow ra + rb + r = y \quad (\text{سؤال 1})$$

$$ra + b = +1 \quad / \quad r_s = \frac{-b}{ra} = r \Rightarrow -b = ra \Rightarrow b = -\varepsilon a$$

$$\hookrightarrow ra - ra = +1 \Rightarrow -ra = 1 \Rightarrow a = \left[\frac{-1}{r} \right]$$

$$b = -\varepsilon \times \frac{-1}{r} = \left[\frac{+1}{r} \right] \quad / \quad y = \frac{-1}{r} z^r + rz + r$$

$$\Rightarrow \Delta = \varepsilon - \varepsilon \left(\frac{-1}{r} \right) (\varepsilon) = 12$$

$$\begin{aligned} z_1 &= \frac{-r + \sqrt{12}}{-1} \Rightarrow r - \sqrt{12} \\ z_2 &= \frac{-r - \sqrt{12}}{-1} \Rightarrow r + \sqrt{12} \end{aligned} \quad \begin{aligned} &\text{كبح مقلوب} \\ &\left[\frac{-1}{r} \right] \end{aligned}$$

$$z^r - (ra + r)z + (ra^r + \varepsilon a + r) = 0 \quad (\text{سؤال 1.})$$

$$\left(x=r \right) \quad r - \underbrace{r(ra + r)}_{-14a - 14} + ra^r + \varepsilon a + r$$

$$\Rightarrow ra^r - ra - 1 = 0 \Rightarrow a^r - ra - r = 0$$

$$(a - r)(a + 1) = 0 \quad \begin{cases} a = 1 \\ a = -\frac{1}{r} \end{cases} \quad / \quad x^r - 14x + 12 = 0$$

$$\Rightarrow (z - r)(z - \varepsilon) = 0 \quad \begin{cases} z = r \\ z = \varepsilon \end{cases} \quad \leftarrow \text{ط}$$