

$$y = (a-1)x^2 + 2x + 3 \xrightarrow{x_0=2} \frac{-b}{2a} = 2 \rightarrow \frac{-1}{2a-2} = 2 \rightarrow 2a-2 = -1 \rightarrow 2a = 3 \rightarrow a = \frac{3}{2}$$

$$\text{تعیین} = \frac{1}{2}x^2 + x + 3 \quad x \in \mathbb{R} \rightarrow -x^2 + 4x + 12 = 0$$

$$-(x^2 - 4x - 12) = 0 \rightarrow -(x-6)(x+2) = 0$$

$$x = 6 \rightarrow \text{طول مثبت}$$

$$x = -2 \rightarrow \text{طول منفی}$$

$$y = mx^2 - \omega x + m \rightarrow \Delta > 0 \rightarrow 2\omega - 4m^2 > 0 \quad m^2 < \frac{2\omega}{4} \rightarrow \frac{-\omega}{2} < m < \frac{\omega}{2} \quad (II)$$

$$\downarrow \quad \omega < 0 \quad m < 0 \quad I$$

$$\frac{(I)(II)}{\cap} \rightarrow \left(-\frac{\omega}{2}, 0\right)$$

$$x^2 - 5x + p = 0$$

$$S = \frac{3-\sqrt{5}}{2} + \frac{3+\sqrt{5}}{2} = +2 \quad \left. \begin{array}{l} \\ \end{array} \right\} x^2 - 2x + \frac{4}{9} = \frac{4}{9}$$

$$P = \frac{3+\sqrt{5}}{2} \times \frac{3-\sqrt{5}}{2} = \frac{4}{9}$$

$$2\alpha^2 + 2\beta^2 - \beta + \alpha^2 = 2(\alpha^2 + \beta^2) - (\beta^2 - \alpha^2) = 2(s^2 - 2p) - (\beta - \alpha)(\beta + \alpha)$$

$$2(14 - m - 2) - \frac{\sqrt{-11m+41}}{2} \times 4 = 12 \rightarrow 22 - 2m - 2\sqrt{-11m+41} - 4 = 12$$

$$\sqrt{-11m+41} = 11 - m \rightarrow \frac{m^2 - 11m + 14}{(m-4)^2} = 0$$

$$(m-4)^2 = 0 \rightarrow m = 4$$

$$y = k(x-2)^2 + 9 \xrightarrow{(0,5)} \frac{5 + 4k + 9}{k = -1} \rightarrow y = -(x-2)^2 + 9 = -(x^2 - 4x + 4) + 9$$

$$\Rightarrow -x^2 + 4x + 5 \rightarrow x = -1 \Rightarrow y > 0 \rightarrow -(x-5)(x+1) = 0$$

$$\rightarrow x = 5$$

$$\frac{-1 \quad \omega}{-1 \pm 1} = (-1, \omega)$$

$$x^r + mx - r = 0 \Rightarrow \alpha^r - m\alpha - r = 0$$

$$\beta^r - m\beta - r = 0$$

$$\alpha^r - m\beta = 1 \rightarrow -m\alpha + rm + \beta^r - rm = 1$$

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

$$m + rm - 1 = 0 \rightarrow S = -r$$

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$$\alpha\beta^r - \sqrt{\beta} + 9\beta = \alpha\beta^r + 2\beta = 0 \Rightarrow \beta(\alpha\beta + 2) = 0 \rightarrow \alpha\beta = -2$$

$$\rightarrow \alpha = \frac{-2}{\beta}$$

$$\alpha^r - \sqrt{\alpha} + 9\beta = 0 \rightarrow \frac{-1}{\beta^r} + \frac{1}{\beta} + 9\beta = 0 \rightarrow -1 + 1\epsilon\beta^r + 9\beta^r = 0 \quad \beta^r = +$$

$$9 + 1 + 1\epsilon + -1 = 0 \quad (t+1)(t-1) \Rightarrow \beta^r = \frac{\epsilon}{9} \Rightarrow \beta = \frac{r}{9} \rightarrow \frac{1}{\alpha} + \frac{1}{\beta} = \frac{S}{P} = \frac{-b}{a} = \frac{V}{9}$$

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$$\Lambda = \frac{-\Delta}{\epsilon a} \Rightarrow \frac{-(14 - f(m)(\frac{m}{r} + V))}{\epsilon m} = 1 \rightarrow rm^r + r\Lambda m - 14 = 3rm$$

$$\rightarrow rm^r - fm - 14 = 0 \rightarrow m^r - fm - 14 = 0 \Rightarrow (m-1)(m+14)$$

$$m = \frac{\Lambda}{r} \alpha \quad \frac{-f}{r} \checkmark \quad y = -rx^r + \epsilon x + 4 \rightarrow -1$$

$$\alpha(a < 0) \quad \frac{-c}{a} = 10$$

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$$y = K(x - x_s)^r + y_s \rightarrow y = K(x - r)^r + 4 \xrightarrow{(0, f)} f = K(-r)^r + 4 \rightarrow K = \frac{-1}{r}$$

$$y = \frac{-1}{r}(x - r)^r + 4 = \frac{-1}{r}(x^r - rx + r) + 4 = y \rightarrow y = \frac{-1}{r}x^r + rx + \frac{r}{r} \rightarrow S = \frac{-r}{-1/r} = f$$

$$P = \frac{f}{-1/r} = -1$$

$$\alpha + \beta = f \rightarrow \frac{1}{\alpha} + \frac{1}{\beta} = \frac{S}{P} = \frac{f}{-1} = \frac{-1}{r}$$

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$$x^r - (fa + f)x + (ra^r + 4a + r) = 0 \xrightarrow{\text{if } x=r} f - 1a - 1 + ra^r + 4a + r = 0$$

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

$$\frac{1}{r} \rightarrow x^r - \frac{1}{r}x + \frac{f}{r} \xrightarrow{\times r} rx^r - 1x + f$$

$$2r \rightarrow \frac{f}{2} = r$$

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