

$$x^2 - 5x + 2 = 0 \rightarrow \beta^2 = 5\beta - 2 \rightarrow \beta^5 = 5^4\beta - 2^4 = 19\beta - 16$$

$$\alpha + \beta = 5 \rightarrow \alpha = 5 - \beta$$

$$\alpha\beta = 2$$

جواب ۱۹

$$\frac{\varepsilon(\alpha) + \beta^5}{5\beta^2} = \frac{\varepsilon(5 - \beta) + 19\beta - 16}{5(5\beta - 2)} = \frac{-\varepsilon\beta + 25 + 19\beta - 16}{25\beta - 10} = \frac{14\beta - 9}{25\beta - 10} = 19$$

$$(3, -4), (-1, 5, -4)$$

$$\text{میانگین} \Rightarrow \frac{3 - 1 + 5}{3} = 0.75$$

$$\hookrightarrow \frac{x_1 + x_2}{2}$$

جواب ۱.۵

$$\text{مجموع ضرایب} \Rightarrow x_1 + x_2 = 2 \times 0.75 = 1.5$$

$$x^2 + 2kx + 5 = 0$$

$$|x_1 - x_2| = \frac{\varepsilon}{3}k$$

جواب ۴

$$|x_1 - x_2| = \sqrt{(x_1 + x_2)^2 - 4x_1x_2} = \sqrt{4k^2 - 20} = \frac{\varepsilon}{3}k \rightarrow 4k^2 - 20 = \frac{1}{9}k^2 \rightarrow 34k^2 - 180 = 14k^2$$

$$\rightarrow 20k^2 = 180 \rightarrow k^2 = 9 \rightarrow \left[\frac{k^2}{2} \right] = \left[\frac{9}{2} \right] = [4.5] = 4$$

$$A_2(3, y)$$

$$B_2(-5, y)$$

$$C_2(x, 1)$$

جواب ۱۳

$$y = \frac{\varepsilon}{3} \left(\frac{-3}{0-2} \right) \left(\frac{-1}{0-1} \right) \rightarrow y = \frac{1}{3}$$

$$\alpha^2 + \beta^2 = 5 \rightarrow \alpha = 1, \beta = 2 \rightarrow y = n(x-2)(x-1) \rightarrow 1 = n \left(\frac{-3}{2} \right) \left(\frac{-1}{1} \right) \Rightarrow n = \frac{\varepsilon}{3}$$

$$\rightarrow 4k^2 - 20 = 5 \rightarrow \left(\frac{k}{a} \right)^2 - 2 \frac{k}{a} = 5 \rightarrow 4 - 4 = 0 \checkmark$$

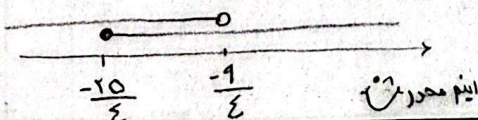
$$-x^2 + 5x + m = 0$$

$$\Delta = 25 + 4m \geq 0 \rightarrow m \geq -\frac{25}{4}$$

جواب $-\frac{25}{4} \leq m < -\frac{9}{4}$

$$f\left(\frac{9}{4}\right) < 0$$

$$f\left(\frac{9}{4}\right) = -\left(\frac{9}{4}\right)^2 + 5\left(\frac{9}{4}\right) + m = -\frac{81}{16} + \frac{45}{4} + m = \frac{9}{4} + m \rightarrow \frac{9}{4} + m < 0 \rightarrow m < -\frac{9}{4}$$



$$\Rightarrow -\frac{25}{4} \leq m < -\frac{9}{4}$$

$$m > 0 \quad \text{در } \Delta$$

$$\text{جواب } x = 2$$

$$y_{\min} = \frac{\epsilon a c - b^2}{\epsilon a} = 2 \rightarrow \frac{\epsilon(m)(2m-1) - 1\epsilon\epsilon}{\epsilon m} = \frac{20m^2 - \epsilon m - 1\epsilon\epsilon}{\epsilon m} = 2m-1 - \frac{34}{m} = 2$$

$$a = m$$

$$b = -12$$

$$c = 2m-1$$

$$\rightarrow 2m - \frac{34}{m} = 2 \rightarrow 2m^2 - 34 = 2m \rightarrow 2m^2 - 3m - 34 = 0$$

$$\rightarrow m = \frac{3 \pm \sqrt{10}}{4} \Rightarrow m = \frac{36}{10} \Rightarrow x = \frac{-b}{2a} = \frac{12}{2m} = \frac{4}{m} \Rightarrow x = 2$$

$$x^2 + 2(a+1)x + 2a-1 = 0$$

$$\alpha, a, \beta \text{ عددهای}$$

$$a^2 = \alpha\beta \rightarrow a^2 = 2a-1 \rightarrow a^2 - 2a + 1 \rightarrow a = 1$$

$$\text{جواب } a = 1$$

$$x^2 - 1x^2 - 2 = 0 \rightarrow t^2 - 1t - 2 = 0 \quad | x^2 = t |$$

$$\text{جواب } -49$$

$$\rightarrow d = \frac{-b}{a} = \frac{-1}{1} = -1$$

$$\rightarrow p = \frac{c}{a} = \frac{-2}{1} = -2$$

$$\rightarrow 2p^2 - 3dp + 2d = 2(1) - 3(-1)(-2) + 2(-2) = 2 - 6 - 4 = -4$$

$$y = kx^2 - \epsilon x - 4 \rightarrow x_r = \frac{-b}{2a} = \frac{+1}{2k} = \frac{1}{k} \rightarrow y_r = k\left(\frac{1}{k}\right)^2 - \epsilon\left(\frac{1}{k}\right) - 4 = \frac{1}{k} - \frac{1}{k} - 4 = -4$$

$$\Rightarrow \text{نقطه } G = \left(\frac{1}{k}, -\frac{1}{k} - 4\right)$$

$$\rightarrow \frac{-1}{k} - 4 = -\frac{1}{k} - 4 \rightarrow \frac{1}{k} = 1 \rightarrow k = 1$$

$$\text{جواب } -1$$

$$y = -mx^2 + mx + 1$$

$$y = -m - x$$

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

$$\Delta < 0 \rightarrow (m+1)^2 + \epsilon(m)(m+1) < 0$$

$$\rightarrow m^2 + 2m + 1 + \epsilon m^2 + \epsilon m < 0 \rightarrow 2m^2 + 4m + 1 < 0 \rightarrow (m+1)(2m+1) < 0 \rightarrow \begin{cases} m = -1 \\ m = -\frac{1}{2} \end{cases}$$

$$\text{جواب } 0$$

$$\text{مجموعه بیشان نیست}$$

$$-1 < m < -\frac{1}{2}$$

$$\begin{cases} m = -1 \\ m = -\frac{1}{2} \end{cases}$$