

$$y = (a-1)x^2 + 2x + 3 \xrightarrow{x_0=2} \frac{-b}{2a} = 2 \rightarrow \frac{-1}{2a-2} = 2 \rightarrow 2a-4 = -1 \rightarrow 2a = 3 \rightarrow a = \frac{3}{2}$$

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

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

$$x = 6 \rightarrow \text{طول مثبت} \checkmark$$

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

$$y = mx^2 - 5x + m \rightarrow \Delta > 0 \rightarrow 25 - 4m^2 > 0 \quad m^2 < \frac{25}{4} \rightarrow -\frac{5}{2} < m < \frac{5}{2} \quad (II)$$

$$a < 0 \quad m < 0 \quad I$$

$$\frac{(I)(II)}{n} \rightarrow (-\frac{5}{2}, 0) \checkmark$$

سوال لغت با ضرایب صحیح!

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

$$S = \frac{3-\sqrt{5}}{2} + \frac{3+\sqrt{5}}{2} = +2 \quad \left. \begin{array}{l} \\ \\ \end{array} \right\} x^2 - 2x + \frac{4}{9} \xrightarrow{\frac{4}{9}} 4x^2 - 18x + 4 = 0$$

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

$$2\alpha^2 + 2\beta^2 - \beta + \alpha^2 = 2(\alpha^2 + \beta^2) - (\beta^2 - \alpha^2) = 2(S^2 - 2P) - (\beta - \alpha)(\beta + \alpha)$$

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

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

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

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

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

$$x = 5$$

$$\frac{-1 \quad 5}{-1 \pm 1} = (-1, 5) \checkmark$$

$$x^r + mx - \gamma m \Rightarrow x^r - mx - \gamma m$$

$$B^r - m\beta - \gamma m$$

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

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

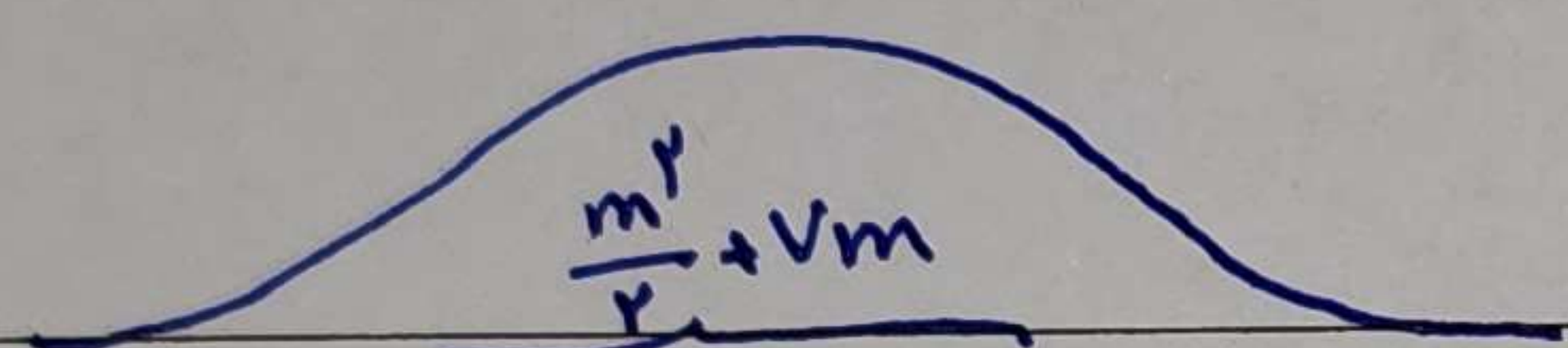
$$m + \gamma m - 1 = 0 \rightarrow S = -\gamma$$

$$\alpha B^r - \gamma B + 9B = \alpha B^r + 2B = 0 \Rightarrow B(\alpha B + 2) = 0 \rightarrow \alpha B = -2$$

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

$$x^r - \gamma x + 9B = 0 \rightarrow \frac{-1}{B^r} + \frac{1}{B} + 9B = 0 \rightarrow -1 + 1B^r + 9B^r = 0 \quad B^r = 1$$

$$9 + 1 + 1 + -1 = 0 \quad (1+1)(1-1) \Rightarrow B^r = \frac{1}{9} \Rightarrow B = \frac{1}{9} \rightarrow \frac{1}{\alpha} + \frac{1}{\beta} = \frac{S}{P} = \frac{-\frac{1}{9}}{\frac{1}{9}} = -1$$



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

$$\rightarrow \gamma m^r - \epsilon m - 14 = 0 \rightarrow m^r - \epsilon m - 3\gamma = 0 \Rightarrow (m-1)(m+4)$$

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

K قبت است!

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

$$y = \frac{-1}{\gamma}(x - \gamma)^r + \gamma = \frac{-1}{\gamma}(x^r - \epsilon x + \epsilon) + \gamma = y \rightarrow y = \frac{-1}{\gamma}x^r + \epsilon x + \epsilon \rightarrow S = \frac{-\gamma}{-\frac{1}{\gamma}} = \epsilon$$

$$\alpha + \beta = \epsilon \rightarrow \frac{1}{\alpha} + \frac{1}{\beta} = \frac{S}{P} = \frac{\epsilon}{-1} = -\frac{1}{\gamma} \checkmark$$

$$x^r - (\epsilon a + \epsilon)x + (3a^r + 4a + 3) = 0 \xrightarrow{\text{if } x=\gamma} \epsilon - 1a - 1 + 3a^r + 4a + 3 = 0$$

$$3a^r - 1a - 1 = 0 \Rightarrow a^r - 1a - \frac{1}{3} = 0 \Rightarrow (a-3)(a+1) \rightarrow 1 \Rightarrow x^r - 1x + 1 = 0 \rightarrow \begin{cases} 4 \\ 1 \end{cases} \checkmark$$

$$\frac{1}{3} \rightarrow x^r - \frac{1}{3}x + \frac{\epsilon}{3} \xrightarrow{x^r} 3x^r - 1x + \epsilon$$

$$2x \rightarrow \frac{2x^r}{2} = x^r$$