

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

$$-\frac{b}{2a} = 2 \rightarrow \frac{-1}{2(a-1)} = 2 \rightarrow -1 = 4(a-1) \rightarrow a = \frac{3}{4}$$

$$\rightarrow y = -\frac{1}{4}x^2 + x + 3 \xrightarrow{\Delta} \frac{-1 \pm \sqrt{1+3}}{-1/2} \rightarrow \frac{-1+2}{-1/2} = 2 \rightarrow \text{ریشه مثبت} = 2$$

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$$f(x) = mx^2 - 5x + m$$

$$\textcircled{1} m < 0 \rightarrow m < 0$$

$$\textcircled{2} \Delta > 0 \rightarrow 25 - 4m^2 > 0 \rightarrow m^2 < \frac{25}{4} \rightarrow -\frac{5}{2} < m < \frac{5}{2}$$

$$\begin{array}{c|cc} x & x_1 & x_2 \\ \hline f(x) & - & + \end{array}$$

$$\textcircled{1} \textcircled{2} \rightarrow -\frac{5}{2} < m < 0 \rightarrow (-\frac{5}{2}, 0)$$

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

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

$$\rightarrow x^2 - 3x + 2 = 0 \xrightarrow{\text{خارج}} \boxed{x^2 - 3x + 2 = 0}$$

$$2\alpha^2 + 3\beta^2 = 12 \rightarrow 2(\alpha^2 + \beta^2) + 1(\alpha^2 - \beta^2) = 12$$

$$2x^2 - 11x + m + 2 = 0$$

$$\alpha^2 + \beta^2 = 14 - (m+2)$$

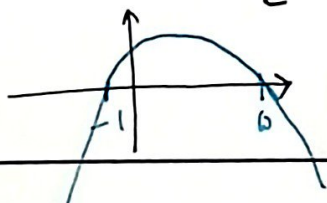
$$\alpha^2 - \beta^2 = \left(\frac{-\sqrt{45-4m+4}}{2} \right) \times 2 = -\sqrt{45-4m} = -2\sqrt{12-2m}$$

$$\begin{aligned} & \left(\frac{t-2}{2} \right)^2 = 0 \rightarrow t=2 \\ & \sqrt{12-2m} = 2 \rightarrow 12-2m=4 \rightarrow m=4 \end{aligned}$$

$$32 - 2m - 4 + -2\sqrt{12-2m} = 12 \rightarrow 12 - 2m + 2 - 4 - 2\sqrt{12-2m} = 12$$

$$S = (2, 9) \rightarrow y = a(x-2)^2 + 9 \quad C = 5$$

$$y = ax^2 - 4ax + 4a + 9 \xrightarrow{C} 4a + 9 = 5 \rightarrow a = -1 \rightarrow -x^2 + 4x + 5$$



بالای محور x ها $(-1, 5)$

$$\frac{1}{\alpha + \beta} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha \beta} = \frac{\frac{V}{\alpha}}{\frac{V}{\alpha \beta}} = \frac{V}{\frac{V}{\alpha \beta}}$$

$$\alpha n^2 - Vn + 9\beta$$

$$\alpha \xrightarrow{A} \alpha^2 - V\alpha + 9\beta = 0 \rightarrow \alpha^2 - V\alpha - \frac{1}{\alpha} \rightarrow \alpha^3 - V\alpha^2 - 1 = 0 \rightarrow \alpha^3 - V\alpha^2 - 1 = 0$$

$$(t+9)(t+r) =$$

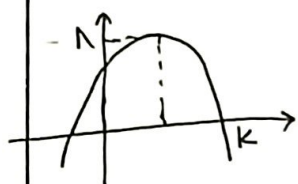
$$\beta \xrightarrow{B} \alpha \beta^2 - V\beta + 9\beta = 0 \rightarrow \alpha \beta = -r \rightarrow \beta = -\frac{r}{\alpha} \rightarrow \beta = -\frac{r}{\frac{V}{\alpha}} = -\frac{r}{V} = -\frac{1}{9}$$

$$n^2 + mn - 1 = 0 \xrightarrow{A \geq B} \beta^2 + m\beta - 1 = 0 \rightarrow -m\beta, \beta^2 - 1 = m$$

$$\rightarrow \frac{\alpha^2 + \beta^2 - 1}{m^2 + f_m} = 1 \rightarrow m^2 + f_m - 1 = 0 \rightarrow m^2 + 1m - 1 = 0 \rightarrow (m+1)(m-1) = 0$$

$$m = -1, m = 1$$

$$\rightarrow m^2 + 1m - 1 = 0 \rightarrow \underline{S = -1}$$

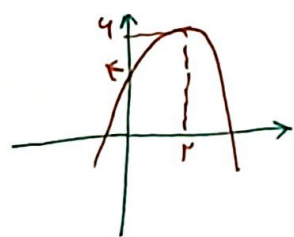


$$-\frac{\Delta}{f_a} = 1 \rightarrow \frac{f(n) = mn^2 + fn + \frac{m}{r} + v}{-(14 - fm(\frac{m}{r} + v))} = 1$$

$$\boxed{K = r}$$

$$-14 + 1m^2 + 1m = 1m$$

$$1m^2 - fm - 14 = 0 \rightarrow m^2 - 1m - 1 = 0 \rightarrow (m-1)(m+1) = 0 \rightarrow m = 1, m = -1$$



$$a(n-r)^2 + 4 = an^2 + fan + \frac{f}{r} + 4$$

$$C \geq f \rightarrow fa + 4 \leq f \rightarrow a \leq -\frac{1}{r}$$

$$-\frac{1}{r}m^2 + 1m + f \leq 0$$

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

$$n^2 - (fa + f)n + (ra^2 + 4a + r) = 0$$

$$\underline{n \geq r} \quad f - 1a + 1 + ra^2 + 4a + r = 0 \rightarrow ra^2 - fa + 1 \rightarrow a \leq -\frac{1}{r}$$

$$\underline{a \geq 1} \quad n^2 - 1n + 1 = 0 \rightarrow n = 1, n = 1$$

$$\boxed{n \geq 4}$$

$$a = -\frac{1}{r} \rightarrow n^2 + \frac{1}{r}n + \frac{1}{r} = 0 \rightarrow n = -\frac{1}{2r}, n = -\frac{1}{2r}$$