

$$x^2 - am + f = 0$$

$$x^2 = \frac{f}{a} \rightarrow x = \pm \sqrt{\frac{f}{a}}$$

$$S = a + 2a = 3a = \frac{a}{\frac{1}{3}} \Rightarrow a = 1$$

$$f \times \frac{1}{f} = \frac{a}{\frac{1}{f}} \Rightarrow a = 1$$

$$f \times \frac{1}{f} = \frac{a}{\frac{1}{f}} \Rightarrow a = -1$$

$$1 - (-1) = 14$$

$$24x^2 - (m+12)x + 1 = 0 \quad m^2 + 3m + 2 = 0 \quad \text{مجموع جذر معکوس ریشه ها} \quad 24x^2 - (m+12)x + 1 = 0 \quad \text{مجموع جذر معکوس ریشه ها}$$

$$m^2 + 3m + 2 = 0$$

$$\frac{1}{\sqrt{a}} + \frac{1}{\sqrt{b}} = \frac{\sqrt{a} + \sqrt{b}}{\sqrt{ab}} = 2 \rightarrow \sqrt{a} + \sqrt{b} = \frac{2}{\sqrt{ab}}$$

$$a + b + 2\sqrt{ab} = \frac{2a}{\sqrt{ab}} \rightarrow \frac{m+12}{24} + \frac{1}{4} = \frac{2a}{\sqrt{ab}} \Rightarrow m+12+12=2a \Rightarrow m=-1$$

$$\frac{1}{m} = \frac{1}{-1} = -1 \quad p'$$

$$a+b=1 \rightarrow a+\frac{1}{a}=1 \rightarrow a^2-a-1=0 \quad \text{ریشه ها } \beta, \alpha \quad \alpha\beta=-2, \alpha+\beta=1, f\alpha^2+ka^2-9a-10=0$$

$$\alpha\beta=-2 \rightarrow \beta=-\frac{1}{\alpha} \rightarrow \alpha=2 \rightarrow \beta=-1$$

$$f\alpha^2+ka^2-9a-10=0$$

$$\begin{matrix} n=2 \\ k=-3 \end{matrix}$$

$$a+b=-4 \quad a\beta=a \quad \text{ریشه ها } \beta, \alpha \quad \alpha\beta=a \quad \alpha^2+4a+10=0 \quad \alpha\beta=a \quad \alpha^2+4a+10=0$$

$$a\beta=a \rightarrow 2a^2 + 2\beta^2 = 12\sqrt{2} + 10 \rightarrow \frac{a}{2}(\alpha^2 + \beta^2) + \frac{1}{2}(\alpha^2 + \beta^2)$$

$$\rightarrow \alpha^2 + \beta^2 = 12 - 2\alpha\beta, \quad \alpha^2 - \beta^2 = -4\sqrt{2}$$

$$12\sqrt{2} + 10 = \frac{a}{2}(12 - 2\alpha\beta) + \frac{1}{2}(-4\sqrt{2}) \rightarrow 12\sqrt{2} = -4\sqrt{2} \quad \sqrt{a} = -2\sqrt{2}$$

$$12\sqrt{2} - 10 = -2\alpha\beta \rightarrow \alpha\beta = 1 \quad p = 1 = \frac{a}{1} \quad a = 1$$

$$t = a^2 \quad 6^2 - 6t + 2 = 0 \quad 36 - 6t + 2 = 0 \quad 38 - 6t = 0 \quad 6t = 38 \quad t = \frac{19}{3}$$

$$6 > 0 \quad \frac{v + \sqrt{49 + 20}}{2} \rightarrow 6 = \frac{v + \sqrt{49}}{2} = 2^2 \quad u = \pm \sqrt{\frac{v + \sqrt{49}}{2}}$$

$$\rightarrow s = 0 \quad p = \frac{-v - \sqrt{49}}{2} \rightarrow 2p^2 - 3sp + 2s = 2p^2 = \frac{11 + 14\sqrt{49}}{2} = 59 + 7\sqrt{49}$$

$$x^2 - ax + b = 0 \quad \begin{cases} S = \frac{a}{r} \\ P = \frac{b}{r} \end{cases} \quad x^2 + ax - 4 = 0 \quad \begin{cases} S = -\frac{1}{r} \rightarrow \alpha + \beta = \frac{1}{r} = \frac{a}{r} \rightarrow a = 1 \\ P = -r \rightarrow b = -4 \end{cases}$$

$$\left[ \frac{ab}{r} \right] = -r$$

دو دایره هم‌مرکز داریم.  $r_0 \beta^2 + r_0 \alpha^2 - r_0 \beta = 1$ ,  $a \alpha^2 - a \alpha - b = 0$  دایره‌های بیرونی و داخلی  $\beta$  و  $\alpha$  (۱۷)

$$\alpha = 1 - \beta \quad \epsilon_0 \beta^2 + r_0(1 - \beta)^2 - r_0 \beta = 1 \Rightarrow r_0 \beta(\beta - 1) = -1 \Rightarrow \alpha/\beta = \frac{1}{r_0}$$

$$\Rightarrow a = -r_0 b \quad a \alpha^2 - a \alpha - b = 0 \Rightarrow -r_0 b \alpha^2 + r_0 b \alpha - b = 0 \quad = -\frac{b}{a}$$

$$|\alpha - \beta| = \frac{\sqrt{\Delta}}{|a|} = \frac{r}{\sqrt{a}}$$

دو دایره هم‌مرکز داریم.  $x^2 - (a+1)x + b = 0$  دایره بیرونی و داخلی  $\alpha$  و  $\beta$  (۱۸)

$$S = a+1 = r\alpha + r \quad \alpha^2 + r\alpha + 1 = r\alpha + r$$

$$P = a = a^2 + r a \quad \alpha = \pm 1 \xrightarrow{\alpha \neq -1} \alpha = 1 \quad a = r$$

$$S = 10 = r\beta + r \rightarrow \beta = 5 \quad b = 4 \times 5 = 20$$

$$b - a = 20 - r = (r_1)$$

$$\alpha + \beta = \frac{-b}{a} = -1 \quad \alpha^2 + \beta^2 = 1 - r(-1 - m^2) =$$

$$\alpha\beta = -1 - m^2 \quad r m^2 + r \xrightarrow{m^2 \geq 0} \min = r$$

دو دایره هم‌مرکز داریم.  $x^2 + \beta^2 = a$  و  $x^2 + \alpha^2 = 1$  دایره‌های بیرونی و داخلی  $B(x, y)$  و  $A(x, y)$  (۱۹)

$$A, B \rightarrow \text{هم‌مرکز} \rightarrow a = \frac{-\omega + r}{r} = -1 \rightarrow y = 1$$

$$\rightarrow y - 1 = a(n+1)^2 \rightarrow -\frac{1}{a} = (n+1)^2$$

$$b = \sqrt{\frac{-1}{a}} \quad n = -1 \pm t \quad a = -1 + t$$

$$\beta = -1 - t$$

$$\alpha^2 + \beta^2 = a \rightarrow (-1+t)^2 + (-1-t)^2 = r + r t^2 \rightarrow$$

$$r r^2 + r = a \rightarrow t^2 = \frac{r}{r} \rightarrow \frac{-1}{a} = \frac{r}{r} \rightarrow a = \frac{-r}{r} \xrightarrow{a=0} y-1 = a$$

$$y = \frac{1}{r} \quad \text{عرفانیه}$$

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