

$$y = a(n+1)^2 + 9 \rightarrow 1 = a(2+1)^2 + 9 \Rightarrow a = -\frac{1}{3}$$

$$y = -\frac{1}{3}(n+1)^2 + 9 = -\frac{1}{3}n^2 - 2n + \frac{14}{3} \checkmark$$

$$\Delta > 0 \Rightarrow m^2 - 1(m+9) > 0 \quad m^2 - 1m - 9 > 0$$

$$\textcircled{2} P > 0 \quad \frac{m+9}{3} > 0 \Rightarrow m > -9 \quad (m-12)(m+12) > 0$$

$$\textcircled{3} S > 0 \quad \frac{-m}{3} > 0 \Rightarrow m < 0$$

$$\frac{-15}{+b} \quad \frac{12}{-b+}$$

$$\rightarrow (-9, -12) \checkmark$$

$$\Delta > 0 \Rightarrow 2m^2 - 2m + 1 - 2 + 12m > 0 \Rightarrow 2m^2 + 10m - 1 > 0$$

$$S = \frac{-b}{a} = \frac{1-2m}{2}$$

$$P = \frac{c}{a} = \frac{2-m}{2}$$

$$\frac{1-2m}{2} = \frac{2-m}{2} \Rightarrow 1-2m = 2-m \Rightarrow 2-4m-m+2m^2 = 9$$

$$2m^2 - 5m - 7 = 0 \rightarrow m = \frac{5 + \sqrt{11}}{4} = 2/0 \checkmark$$

$$\rightarrow m = \frac{5 - \sqrt{11}}{4} = -1 \times$$

$$A^2 - A - 4 = 0 \Rightarrow S = 1 \quad P = -4$$

$$S' = \alpha^2 + \frac{1}{\alpha} + \beta^2 + \frac{1}{\beta} = \frac{\alpha^2\beta + \beta + \alpha\beta^2 + \alpha}{\alpha\beta} = \frac{S + P(\alpha^2 + \beta^2)}{P} = \frac{-1}{-4}$$

$$P' = \left(\alpha^2 + \frac{1}{\alpha}\right)\left(\beta^2 + \frac{1}{\beta}\right) = \alpha^2\beta^2 + \frac{\alpha^2}{\beta} + \frac{\beta^2}{\alpha} + \frac{1}{\alpha\beta} = -4 + \frac{1}{-4} + \frac{\alpha\beta(\alpha^2 + \beta^2)}{\alpha\beta}$$

$$= -\frac{17}{4}$$

$$0 = 2^2 - \frac{1}{2} - \frac{17}{4} \Rightarrow 2^2 - 0.125 = 2.125 = 0 \checkmark$$

$$\sqrt{x} = t$$

$$\left(t + \frac{1}{t} + 1\right)(t-1) = 2\sqrt{t}$$

$$t^2 + 1 + t - t - \frac{1}{t} - 1 = 2\sqrt{t} \Rightarrow t^2 - \frac{1}{t} = 2\sqrt{t}$$

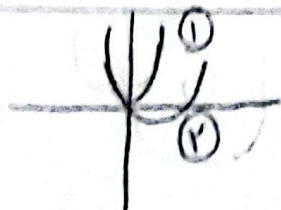
$$t^2 - 1 = 2t\sqrt{t} \Rightarrow 2^2 - 1 = 2\sqrt{2}(\sqrt{2}) = 2 \times 2$$

$$2^2 - 2 \times 2 - 1 = 0 \quad S = \frac{-b}{a} = \frac{2}{1} = 2 \checkmark$$

$$S = 2\beta + \beta = 3\beta = \frac{-(-a)}{r} \Rightarrow \pm \frac{\Delta}{r} = \frac{a}{r} \Rightarrow \begin{cases} a = 1 \\ a = -1 \end{cases}$$

$$P = 2\beta \times \beta = \frac{r}{r} \Rightarrow \beta^2 = \frac{r}{r} \Rightarrow \beta = \pm \frac{r}{r}$$

$$1 - (-1) = 2 \quad \checkmark$$



$$\textcircled{1} \Delta = 0 \quad 1 + 12a + 4a^2 - 4a^2 = 0 \quad 12a < -9$$

$$\textcircled{2} S > 0 \quad \frac{-2-2a}{a} > 0 \quad \frac{-\frac{r}{r}}{+\frac{r}{r}+\frac{r}{r}} = \frac{-1}{2}$$

برای هیچ عددی

$$\text{علامه ضابطه} \rightarrow \frac{-b}{2a} \quad \frac{-a}{r} = \frac{r}{-r} \Rightarrow a = 2$$

$$1 = x^2 + 2x - 2 \Rightarrow x^2 + 2x - 2 = 0 \Rightarrow x = \frac{-2 \pm \sqrt{4 + 8}}{2} = \frac{-2 \pm \sqrt{12}}{2}$$

$$1 = -x^2 - 2x + b \Rightarrow \begin{cases} -9 + 6 + b = 1 \Rightarrow b = 4 \\ -1 - 2 + b = 1 \Rightarrow b = 4 \end{cases}$$

$$4 \times 2 = 8 \quad \checkmark$$

$$S_1 = \frac{a}{r} \quad S_2 = \frac{-a}{ra} \quad S_1 - 1 = S_2 \Rightarrow \frac{a}{r} - 1 = \frac{-1}{r} \Rightarrow a = 1$$

$$2x^2 + x - 4 = 0 \quad P_r = x_1 \times x_2 = -2$$

$$P_1 = \frac{b}{r} = (x_1 + 0/0)(x_2 + 0/0) = x_1 x_2 + 0/0(x_1 + x_2) + \frac{1}{r} = -2 \Rightarrow \begin{cases} \frac{ab}{r} = \frac{-4 \times 1}{r} = -2 \\ b = -4 \end{cases} \quad \checkmark$$

$$S_1 = \alpha_1 + \beta_1 = \frac{-5}{1} = -5 \quad S_2 = \alpha_2 + \beta_2 = \frac{2}{1} = 2$$

$$\alpha_1 = \alpha_2 \Rightarrow \alpha_1 + \beta_1 - (\alpha_2 + \beta_2) = -5 - (-2)$$

$$\beta_1 - \beta_2 = -3$$

$$|\beta_1 - \beta_2| = 3 \quad \checkmark$$

چهار دایره اختلاف دارند