

$$x^2 - ax + 2 = 0 \quad \alpha, \beta = 2\alpha$$

$$\rightarrow \alpha\beta = 2\alpha^2 = \frac{2}{2} \rightarrow \alpha^2 = \frac{1}{2} \rightarrow \begin{cases} \alpha = \frac{1}{\sqrt{2}} \rightarrow \beta = -1 \rightarrow S = \frac{-1}{\sqrt{2}} = \frac{a}{\sqrt{2}} \rightarrow a = -\sqrt{2} \\ \alpha = \frac{1}{\sqrt{2}} \rightarrow \beta = 1 \rightarrow S = \frac{1}{\sqrt{2}} = \frac{a}{\sqrt{2}} \rightarrow a = \sqrt{2} \end{cases}$$

$$\rightarrow 1 - (-1) = 2$$

$$x^2 - (m+12)x + 1 = 0 \rightarrow \sqrt{\frac{1}{\alpha}} + \sqrt{\frac{1}{\beta}} = 2 \rightarrow \frac{1}{\alpha} + \frac{1}{\beta} + 2\sqrt{\frac{1}{\alpha\beta}} = 28$$

$$\rightarrow \frac{S}{P} + 2\sqrt{\frac{1}{P}} = 28 \xrightarrow{S = \frac{m+12}{2}, P = \frac{1}{24}} \frac{\frac{m+12}{2}}{\frac{1}{24}} + 2\sqrt{24} = 28 \rightarrow m+12+12=28$$

$$\rightarrow m = 4 \rightarrow -x^2 + 3x + 2 = 0 \rightarrow P' = -2$$

$$x^2 + kx^2 - 9x - 2 = 0 \quad \alpha + \beta = 1 \quad \alpha\beta = -2 \xrightarrow{x^2 - 2x + P} x^2 + kx^2 - 9x - 2 = (x+1)(x^2 - x - 2) = x^3 - x^2 - 9x - 2 \rightarrow k = -3$$

درست است

$$\alpha + \beta = 1 \rightarrow \beta = 1 - \alpha \rightarrow \alpha(1 - \alpha) = -2 \rightarrow -\alpha^2 + \alpha + 2 = 0 \rightarrow \alpha^2 - \alpha - 2 = 0$$

$$\rightarrow \begin{cases} \alpha = 2 \rightarrow \beta = -1 \\ \alpha = -1 \rightarrow \beta = 2 \end{cases} \xrightarrow{\text{درست است}} x = -1 \rightarrow -2 + k + 9 - 2 = 0 \rightarrow k = -3$$

$$x^2 + 4x + a = 0 \rightarrow \begin{cases} \alpha = \frac{-4 - \sqrt{16 - 4a}}{2} = \frac{-4 - 2\sqrt{4 - a}}{2} = -2 - \sqrt{4 - a} \\ \beta = \frac{-4 + \sqrt{16 - 4a}}{2} = \frac{-4 + 2\sqrt{4 - a}}{2} = -2 + \sqrt{4 - a} \end{cases}$$

$$\rightarrow \begin{cases} \alpha^2 = 4 + 4 - a + 4\sqrt{4 - a} \rightarrow 2\alpha^2 = 8 - a + 4\sqrt{4 - a} \\ \beta^2 = 4 + 4 - a - 4\sqrt{4 - a} \rightarrow 2\beta^2 = 8 - a - 4\sqrt{4 - a} \end{cases} \rightarrow 2\alpha^2 + 2\beta^2 = 8 - a + 4\sqrt{4 - a} + 8 - a - 4\sqrt{4 - a} = 16 - 2a$$

$$\rightarrow 16 - 2a = 18 + 12\sqrt{2} \rightarrow \begin{cases} 16 - 2a = 18 \rightarrow a = -1 \\ 16 - 2a = 18 + 12\sqrt{2} \rightarrow a = -1 - 6\sqrt{2} \end{cases} \rightarrow a = -1$$

$$x^2 - 4x - 8 = 0 \xrightarrow{x^2 = 4x + 8} 4x - 4x - 8 = 0 \rightarrow \begin{cases} x^2 = \frac{4 + \sqrt{16 + 32}}{2} \rightarrow S = 0 \quad P = -\frac{4 + \sqrt{48}}{2} \\ x^2 = \frac{4 - \sqrt{48}}{2} \end{cases}$$

$$\rightarrow 2P' - 3S' + 2S = 2P' = 2 \left(-\frac{4 + \sqrt{48}}{2} \right) = -4 - 4\sqrt{3} = \frac{11 + 12\sqrt{3}}{2} = 8 + 6\sqrt{3}$$

$$y = 2n^r + an - 4$$

$$y' = 2n^r - an + b$$

چون رشتۀ قرینه بدیدید
تنها علامت $\frac{b}{r}$ قرینه شده
ضرب n
در r مساوی است

$$S = -\frac{1}{r}$$

$$S' = S + 1 = \frac{1}{r} = \frac{a}{r} \rightarrow a = 1$$

$$2n^r + n - 4 = 0$$

$$2n^r - n + b = 0$$

$$\rightarrow b = -6$$

$$\alpha = -\frac{r}{r} = -1, \beta = 1, 8$$

$$\alpha' = -1, 8 \quad \beta' = 2$$

$$\rightarrow \left[\frac{ab}{\varepsilon} \right] = \left[\frac{-6}{\varepsilon} \right] = [-1, 8] = -2$$

رشتۀ قرینه اند

$$P' = -2 = \frac{b}{r} \rightarrow b = -6$$

$$an^r - an - b = 0 \xrightarrow{+a} n^r - n - \frac{b}{a} = 0 \rightarrow \beta^r - \beta = \frac{b}{a}$$

$$r\beta^r + \alpha^r - \beta = \frac{14}{r} \rightarrow \beta^r - \beta + \frac{\beta^r + \alpha^r}{1 + \frac{r}{a}} = \frac{14}{r} \rightarrow \frac{b}{a} + 1 + \frac{r}{a} \frac{b}{a} = 1 + \frac{r}{a} \frac{b}{a} = \frac{14}{r}$$

$$\rightarrow \frac{b}{a} = -\frac{1}{r} \rightarrow n^r - n + \frac{1}{r} = 0 \rightarrow |\alpha - \beta| = \frac{\sqrt{\Delta}}{|\alpha|} = \frac{\sqrt{1 - \frac{1}{8}}}{1} = \frac{r}{\sqrt{8}}$$

$$n^r - (a+1)n + a = 0 \rightarrow \begin{cases} S = a+1 \rightarrow \alpha + (\alpha+r) = a+1 \\ P = a \rightarrow \alpha^r + r\alpha = a \end{cases} \xrightarrow{\text{نیز}} \alpha^r - r = -1$$

$$\rightarrow \alpha^r = 1 \rightarrow \begin{cases} \alpha = 1 \\ \alpha = -1 \times \alpha \notin \mathbb{N} \end{cases}$$

$$\rightarrow \alpha = +1 \quad \beta = r \rightarrow S = r \quad P = r \rightarrow a = r$$

$$n^r - (ra+1)n + b = 0 \rightarrow \begin{cases} S' = ra+1 = 10 \rightarrow \alpha' + \alpha' + r = 10 \rightarrow \alpha' = 4 \quad \beta' = 4 \\ P' = b \rightarrow b = 12 \end{cases}$$

$$P' - P = 12 - r = 11$$

$$n^r + n - 1 - m^r = 0$$

$$\rightarrow \alpha^r + \beta^r = (\alpha + \beta)^r - r\alpha\beta = (-1)^r - r(-1-m^r) = 1 + r + rm^r = rm^r + r$$

$$\min_{m=0} \rightarrow rm^r + r = r$$

$$B(-\delta, y) \quad A(r, y) \rightarrow \text{ext} \left| \begin{matrix} -1 \\ 1 \end{matrix} \right| \rightarrow y = a(n - (-1)^r + 1) = an^r + ran + (1+a)$$

$$\alpha^r + \beta^r = S^r - rP = (-r)^r - r\left(\frac{1+a}{a}\right) = r - \frac{r+ra}{a} = \delta \rightarrow \frac{ra+r}{a} = -1 \rightarrow a = -\frac{r}{r}$$

$$\rightarrow y = -\frac{r}{r}n^r - \frac{\varepsilon}{r}n + \frac{1}{r} \xrightarrow{n=0} y = \frac{1}{r}$$

مقدار از صفر