

الف) $m^2 - 24m + 144 \rightarrow (m-12)(m+12) \rightarrow \alpha, \beta = \frac{9}{9} \text{ و } -\frac{12}{9}$ ب) $m^2 - 14m + 49 \rightarrow (m-7)(m+7) \rightarrow \alpha, \beta = \frac{1}{7} \text{ و } -\frac{1}{7}$ ج) $m^2 - 8m + 16 \rightarrow (m-4)(m+4) \rightarrow \alpha, \beta = \frac{4}{4} \text{ و } -\frac{4}{4}$ د) $m^2 - 24m + 144 \rightarrow (m-12)(m+12) \rightarrow \alpha, \beta = \frac{12}{12} \text{ و } -\frac{12}{12}$	۱
الف) $(m-7)(m+7) \rightarrow \alpha, \beta = \frac{7}{7} \text{ و } -\frac{7}{7}$ ب) $m^2 - 14m + 49 \rightarrow \alpha, \beta = -1 \text{ و } -\frac{13}{7} \rightarrow 1 + \frac{13}{7} = \frac{20}{7}$ ج) $\Delta < 0 \rightarrow$ ریشه ندارد $\Delta = 25 - 4 \times 3 \times 1 = -8 = 1^2 - 4ac$ د) $\Delta = 9 + (4 \times 3 \times 1) = 25 \quad \alpha, \beta = \frac{-3 \pm \sqrt{25}}{4} = \frac{-3 \pm 5}{4}$	۲
$B \times B = \{(1,2), (2,3), (3,2), (3,3)\}$ $A \times B = \{(1,2), (1,3), (2,2), (2,3), (3,2), (3,3)\}$ $A \times B - B^T = \{(1,2), (1,3)\}$	۳
الف) $m^2 = m+2 \rightarrow m^2 - m - 2 = 0 \rightarrow m = 2, -1$ $m \neq 2 \rightarrow m = -1$ ب) $m \neq 2 \rightarrow m = 2, -1$ $m \neq -1, 2 \rightarrow$ هیچ	۴
$a^2 = 2a - 2$ $a^2 - 2a + 2 = 0$ تحقیق $\Delta = 4 - 8 = -4$ $a = \frac{2 \pm \sqrt{-4}}{2}$ $y^2 - 6y_1 = y^2 - 6y_2$	۵

$$\text{II} \rightarrow a^m + b \xrightarrow{1} a + b = 0 \Rightarrow a = 1 \Rightarrow a \times b = -1 \quad \text{ب.ع.}$$

$$\text{III} \rightarrow a + b \xrightarrow{1} a + b = 1 \Rightarrow b = -1$$

$$\text{if } n=1 \Rightarrow a + b = n^2 - 1$$

$$\text{if } n=2 \Rightarrow a + b = n^2$$

$$\text{if } n=k \Rightarrow k^m - r = \varepsilon - r_m \Rightarrow \omega m = r \Rightarrow n = \frac{r}{\omega} = k$$

الف) $y^2 - y = 0 \Rightarrow y = 0$ یا $y = 1$ ~~ب.ع. 1~~ $y^2 - y = 0 \Rightarrow y = 0$ یا $y = 1$ ~~ب.ع. 1~~

$$n=0 \Rightarrow |y|=r \Rightarrow y = \pm r \quad \text{ب.ع. 1}$$

$$1 - \cos n \geq 0 \rightarrow 1 \geq \cos n \rightarrow n = 0 \Rightarrow |y| = \frac{1}{r} \Rightarrow y = \pm \frac{1}{r} \quad \text{ب.ع. 1}$$

$$y^2 + (n+1)^2 = 0 \Rightarrow y = 0, n = -1 \quad \text{ب.ع. 1}$$

الف) $\text{if } (m_1, y_1) \in P \Rightarrow y_1 = y_r$ $\text{if } (m_2, y_2) \in P \Rightarrow y_2 = y_r$

$$y_1^2 + r y_1 = y_r^2 + r y_r$$

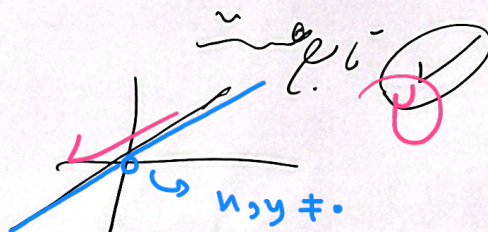
$$(y_1 - y_r)(y_1^2 + y_1 y_r + y_r^2 + r) = 0 \Rightarrow \begin{cases} y_1 = y_r \\ P = 0 \Rightarrow y = \frac{-y_r \pm \sqrt{\Delta}}{r} \end{cases}$$

$$\Delta = y_r^2 - 4y_r^2 - 4 = -3y_r^2 - 4 \Rightarrow \sqrt{\Delta} = \frac{2}{3} \Rightarrow y_1 = y_r$$

الف) $n=2 \rightarrow y=0$ ~~ب.ع. 1~~ $y=0$ ~~ب.ع. 1~~

$$\rightarrow \sqrt{\frac{m}{y}} + \sqrt{\frac{y}{m}} = 2$$

$$\frac{m}{y} = \frac{y}{m} = 1 \Rightarrow y = m$$



$$(10-ب) \sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2$$

اسی عبارت تنہا زمانی ہو قرار است کہ $1 = \sqrt{\frac{x}{y}}$ با ۱ پس

$$\sqrt{\frac{x}{y}} = 1 \leadsto \frac{x}{y} = 1 \leadsto x = y \text{ و } (x, y \neq 0)$$

