

19 آفیت

الف)  $4x^2 - 5x - 4 = 0 \rightarrow x^2 - 5x - 4 = 0 \rightarrow (x+4)(x-9) \begin{cases} x = -\frac{4}{1} = -4 \\ x = \frac{9}{1} = 9 \end{cases}$

ب)  $x^2 - 18x - 9 = 0 \rightarrow x^2 - 18x - 9 = 0 \rightarrow (x+1)(x-9) \begin{cases} x = -\frac{1}{1} = -1 \\ x = \frac{9}{1} = 9 \end{cases}$

ج)  $x^2 - 4x - 12 = 0 \rightarrow x^2 - 4x - 12 = 0 \rightarrow (x+2)(x-6) \begin{cases} x = -\frac{2}{1} = -2 \\ x = \frac{6}{1} = 6 \end{cases}$

د)  $x^2 - 5x - 12 = 0 \rightarrow x^2 - 5x - 12 = 0 \rightarrow (x+4)(x-3) \begin{cases} x = -\frac{4}{1} = -4 \\ x = \frac{3}{1} = 3 \end{cases}$

الف)  $x^2 - 5x - 12 = 0 \rightarrow \Delta = 25 + 48 = 73 \rightarrow x = \frac{5 \pm \sqrt{73}}{2}$

ب)  $x^2 + 5x + 4 = 0 \rightarrow x^2 + 5x + 4 = 0 \rightarrow (x+2)(x+2) \begin{cases} x = -\frac{2}{1} = -2 \\ x = -\frac{2}{1} = -2 \end{cases}$

ج)  $x^2 + 2x + 1 = 0 \rightarrow x^2 + 2x + 1 = 0 \rightarrow (x+1)(x+1) \begin{cases} x = -\frac{1}{1} = -1 \\ x = -\frac{1}{1} = -1 \end{cases}$

د)  $x^2 + 12x + 27 = 0 \rightarrow \Delta = 144 - 108 = 36 \rightarrow x = \frac{-12 \pm \sqrt{36}}{2}$

$A \times B = \{(1,2), (1,3), (2,2), (2,3), (3,2), (3,3)\}$   $B^T = \{(2,1), (3,1), (2,2), (3,2)\}$   
 $A \times B - B^T = \{(1,2), (1,3)\}$

با توجه به زوج مرتب اول و پنجم تابع  $f$   
 $f(x) = \{(1,1), (2,1), (-3,-1), (-4,-1), (5,1), (-6,1)\}$   $m^T = m + 2$   
 $m^T - m - 2 = 0 \rightarrow \begin{cases} m = 2 \times \\ m = -1 \end{cases}$

با توجه به زوج مرتب اول و چهارم تابع  $g$   
 $g(x) = \{(1,1), (2,1), (-3,2), (5,1), (-4,-1), (-1,2)\}$   $m^T = m + 2$   
 $m^T - m - 2 = 0 \rightarrow \begin{cases} m = 2 \times \\ m = -1 \end{cases}$  دقت کن!

$f(x) = \{(1, a^2), (1, 2a-2), (a^2, 2a+2)\} \rightarrow a^2 = 2a-2 \rightarrow a^2 - 2a + 2 = 0 \begin{cases} a = 2 \times \\ a = 1 \times \end{cases}$   
 $f(x) = \{(1, 4), (1, 2), (4, 2)\}$

$$x=1 \rightarrow x^2-1=ax+b \rightarrow a+b=0 \rightarrow a=-b$$

$$x=2 \rightarrow ax+b-x^2 \rightarrow 2a+b-1 \rightarrow 2(-b)+b=1 \rightarrow -b=1$$

$$a \times b = -4$$

$$\begin{cases} b=-1 \\ a=1 \end{cases}$$

$$x=k \rightarrow 2k-2=4-2k \rightarrow 4k=6 \rightarrow k=\frac{3}{2}$$

تعریف ریاض برای این که نمی‌کنند تابعی فقط داری و ۱ و ۲ متناظرند!

$$y''-4y=x^2-4x+4 \rightarrow y(y''-4)=0 \begin{cases} y=0 \\ y=+2 \\ y=-2 \end{cases}$$

$$\begin{cases} y_1=0 \\ y_2=+2 \\ y_3=-2 \end{cases}$$

$$y_1=0 \rightarrow y_1''=0 \rightarrow y_1=0$$

$$y_2=+2 \rightarrow y_2''=0 \rightarrow y_2=+2$$

$$y_3=-2 \rightarrow y_3''=0 \rightarrow y_3=-2$$

$$y_1=0, y_2=+2, y_3=-2 \rightarrow y_1=y_2=y_3=0$$

$$y_1=0, y_2=+2, y_3=-2 \rightarrow y_1=y_2=y_3=0$$

$$y_1=0, y_2=+2, y_3=-2 \rightarrow y_1=y_2=y_3=0$$

$$\begin{cases} y_1'' = -x_1^2 + 2x_1 - 2 \\ y_2'' = -x_2^2 + 2x_2 - 2 \end{cases} \xrightarrow{x_1=x_2} y_1'' = y_2'' \rightarrow y_1 = y_2$$

$$(y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2) = 0$$

$$y_1 = y_2$$

$$x \sin y = y \sin x \rightarrow y \in \mathbb{R} \times \mathbb{R}$$

$$\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2 \rightarrow \frac{x}{y} + \frac{y}{x} + 2\sqrt{\frac{x}{y} \cdot \frac{y}{x}} = 4 \rightarrow \frac{x^2 + y^2}{xy} = 2$$

$$x^2 + y^2 = 2xy \rightarrow x^2 - 2xy + y^2 = 0 \rightarrow (x-y)^2 = 0 \rightarrow x=y$$

ج-۴)  $(3, m^2)$  و  $(3, m+2) \leadsto m^2 = m+2 \leadsto m^2 - m - 2 = 0$

$m=2 \rightarrow (2, 1) \text{ و } (2, 4) \times$

$m=-1 \rightarrow (-1, 4) \text{ و } (-1, 3) \times$  به ازای هیچ مقدار  $m$  عبارت آبرمیت!

۸-د)  $y^2 + x^2 + 2x + 1 = 0 \leadsto y^2 + (x+1)^2 = 0$

همواره مقدار ناقلی صفر است پس هر دو صفر هستند یعنی  $x+1=0$  و  $y=0$  و به همین دلیل آبرمیت!