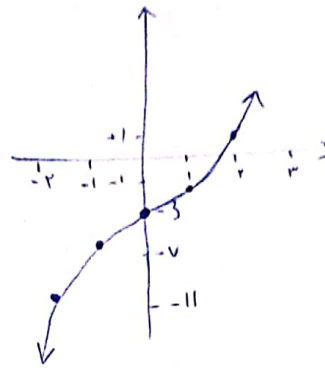


$$A \rightarrow y^2 x - 3 \rightarrow \begin{array}{c|c} x & y \\ \hline 0 & -3 \\ 1 & -1 \\ 2 & 1 \end{array} \quad 0 \geq k$$

$$B \rightarrow y^2 + 4x - 3 \rightarrow \begin{array}{c|c} x & y \\ \hline 0 & -3 \\ -1 & -1 \\ -2 & 1 \end{array} \quad 0 \leq k$$

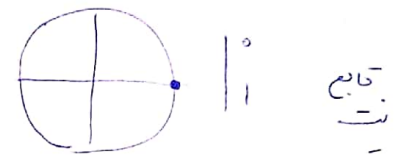


(۷) من اینجا مقدار دادم
توی نقطه ای که اگر بدیم
که با هم برضور نکند
۵

الف) $x \leq 1 \rightarrow y^3 - 4y \leq 0 \rightarrow y(y^2 - 4) \leq 0$ تابع
 $\begin{cases} y \leq 0 \\ y \geq +\sqrt{4} \\ y \leq -\sqrt{4} \end{cases}$

ب) $x \leq 0 \rightarrow |y| \leq 3 \rightarrow y \leq \pm 3$ تابع

ج) $x \leq 0 \rightarrow |y| \leq \sqrt{1 - \cos 0} \rightarrow |y| \leq 1 \rightarrow y \leq \pm 1$



د) $x \geq y^2 + (x+1)^2 \leq 0$ تابع
 $y \leq 0 \quad x \leq -1$

انگ) $\sqrt{y} \leq 2x - 2 + x^2$
 $-(-x^2 + 2 - 2x) \rightarrow -((x-1)^2 + 1) = \sqrt{y}$
 به ازای هر رادیکالی مقدار - منفی شود

ب) $y_1^3 + 2y_1 \leq 2x$
 $y_2^3 + 2y_2 \leq 2x$
 $y_1^3 + 2y_1 = y_2^3 + 2y_2$
 $(y_1^3 - y_2^3) + 2(y_1 - y_2) \leq 0$
 $(y_1 - y_2)(y_1^2 + y_1 y_2 + y_2^2) + 2(y_1 - y_2) \leq 0$
 $(y_1 - y_2)(\underbrace{y_1^2 + y_1 y_2 + y_2^2 + 2}_{a x^2 + b x + c}) \leq 0$

$y_1 = y_2$
 شرایط برقرار

$\Delta = y_1^2 - 4(1)(y_1^2 + 2) \leq 0$
 $y_1^2 - 4(y_1^2 + 2) \rightarrow y_1^2 - 4y_1^2 - 8 \leq 0$

$\frac{x}{\sin y} = y \sin x$
 $\rightarrow x \leq 0 \leq y \sin 0$
 $x \leq 0$
 $y \leq 0$ می تواند باشد

الف) $\sqrt{\frac{x}{y}} + \sqrt{\frac{y}{x}} = 2$
 به ازای $x = y = 1$ برقرار است

2) $4x^2 - 5x - 4 = 0 \rightarrow x^2 - 5x - 4 = 0 \rightarrow (x + \frac{5}{4})(x - \frac{9}{4}) = 0$ C جواب مقلوب
 $\rightarrow x_1 = -\frac{5}{4} \quad x_2 = \frac{9}{4}$ (1)

3) $3x^2 - 11x - 4 = 0 \rightarrow x^2 - 11x - 4 = 0 \rightarrow (x + \frac{1}{3})(x - \frac{9}{3}) = 0 \rightarrow x_1 = -\frac{1}{3} \quad x_2 = 3$

4) $5x^2 - 7x - 3 = 0 \rightarrow x^2 - 7x - 3 = 0 \rightarrow (x + \frac{7}{5})(x - \frac{9}{5}) = 0 \rightarrow x_1 = -\frac{7}{5} \quad x_2 = \frac{9}{5}$

5) $2x^2 - 3x - 12 = 0 \rightarrow x^2 - 3x - 6 = 0 \rightarrow (x + \frac{3}{2})(x - \frac{4}{2}) = 0 \rightarrow x_1 = -\frac{3}{2} \quad x_2 = 2$

6) $x^2 - 5x - 14 = 0$ $\xrightarrow{\Delta \text{ مقلوب}}$ $\Delta = 25 - 4(1)(-14) = \frac{25 + 56}{2} = \frac{81}{2} \rightarrow x = \frac{5 \pm \sqrt{81}}{2} = \frac{5 \pm 9}{2}$
 $\rightarrow x = 7 \quad x = -2$ (2)

7) $2x^2 + 5x + 3 = 0$ $\xrightarrow{\Delta \text{ مقلوب}}$ $x^2 + 5x + 4 = 0 \quad (x + \frac{5}{2})(x + \frac{4}{2}) \quad x_1 = -1 \quad x_2 = -\frac{4}{2}$

8) $x^2 + 2x + 3 = 0$ $\xrightarrow{\Delta \text{ مقلوب}}$ $\Delta = 4 - 4(1)(3) = -8 < 0$ لا يوجد حل

9) $3x^2 + 3x - 2 = 0$ $\xrightarrow{\Delta \text{ مقلوب}}$ $\Delta = 9 - 4(3)(-2) = 33 \quad x_1 = \frac{-3 + \sqrt{33}}{4} \quad x_2 = \frac{-3 - \sqrt{33}}{4}$ (3)

$A = \{1, 2, 3\} \quad B = \{2, 3\}$ $A \times B = B^2$
 $A \times B = \{(1, 2), (1, 3), (2, 2), (2, 3), (3, 2), (3, 3)\}$ $A \times B - B^2 = \{(1, 2), (1, 3)\}$
 $B^2 = \{(2, 3), (2, 2), (3, 2), (3, 3)\}$ (4)

10) $m^2 = m + 2 \quad m^2 - m - 2 = 0 \quad (m+1)(m-2) = 0$
 $\xrightarrow{\Delta \text{ مقلوب}}$ $m_1 = -1 \quad m_2 = 2$ (2, 4), (2, 1) X

11) $m^2 = m + 2 \quad m^2 - m - 2 = 0 \quad (m+1)(m-2) = 0$
 $\xrightarrow{\Delta \text{ مقلوب}}$ $m_1 = -1 \quad m_2 = 2$ (2, 4), (2, 1) X

$a^2 = 3a - 2 \quad a^2 - 3a + 2 = 0 \quad (a-1)(a-2) = 0$
 $\xrightarrow{\Delta \text{ مقلوب}}$ $a_1 = 1 \quad a_2 = 2$

if $x \leq 1 \rightarrow \begin{cases} x^2 - 1 \Rightarrow 1 - 1 = 0 \\ a + b \leq 0 \end{cases}$ if $x \leq 2 \rightarrow \begin{cases} a + b \Rightarrow 2a + b \\ n^3 \Rightarrow 1 \end{cases}$ (4)
 $\frac{a + b \leq 1}{a + b \leq 0} \rightarrow \frac{b = -1}{a \leq 1} \rightarrow ab \leq -4$