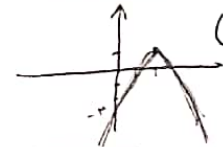


نام و نام خانوادگی پاسخنامه تشریحی تکلیف شماره کلاس نام و نام خانوادگی	
$Min = \left\{ \frac{-b}{2a} = \frac{-5}{2} = -2.5 \right.$ $y = x^2 + 4x + 5$ $= 9 - 10 + 5$ $y = -1$	(الف) $Min = \left\{ \begin{matrix} -3 \\ -4 \end{matrix} \right.$
	(ب) ۱
$y = -x^2 + 3x - 2$ $= -x^2 + 1 - 2$ $y = -1$	(الف) $Max = \left\{ \begin{matrix} 2 \\ 1 \end{matrix} \right.$ 
$-1(-x^2 + 3x - 2 = 0)$ $x^2 - 3x + 2 = 0$ $(x-1)(x-2) = 0$ $x=1$ $x=2$	(ب) ۲
$2x^2 - 3x + a = 0$ $\Delta = b^2 - 4ac = 9 - 4 \times 2 \times a = 9 - 8a$ $9 - 8a > 0$ $-8a > -9$ $a > \frac{9}{8}$	(الف) یعنی $\Delta > 0$ (ب) یعنی $\Delta = 0$ $9 - 8a = 0$ $-8a = -9$ $a = \frac{9}{8}$
$9 - 8a < 0$ $-8a < -9$ $a < \frac{9}{8}$	(ج) یعنی $\Delta < 0$ (د) یعنی $\Delta \geq 0$
(الف) $x^2 - 2x - 1 = 0$ $x^2 - 2x - 1 + 2 = 2 \Rightarrow x^2 - 2x + 1 = 2$ $(x-1)^2 = 2 \Rightarrow x-1 = \sqrt{2} \rightarrow x = \sqrt{2} + 1$ $x-1 = -\sqrt{2} \rightarrow x = -\sqrt{2} + 1$ (ب) $x^2 - x - 1 = 0$ $x^2 - x - 1 + \frac{1}{4} = \frac{5}{4}$ $x^2 - x + \frac{1}{4} = \frac{5}{4} \Rightarrow (x - \frac{1}{2})^2 = \frac{5}{4} \Rightarrow x - \frac{1}{2} = \pm \sqrt{\frac{5}{4}}$ $x = \frac{\sqrt{5} + 1}{2} = \frac{\sqrt{5} + 1}{2}$ $x = \frac{1}{2} - \frac{\sqrt{5}}{2} = \frac{1 - \sqrt{5}}{2}$	(الف) ۴
(الف) $x^2 - 2x - 1 = 0$ $\Delta = b^2 - 4ac = 4 + 4 = 8$ $x = \frac{2 \pm \sqrt{8}}{2} = \frac{2 \pm 2\sqrt{2}}{2} \rightarrow \begin{matrix} 1 + \sqrt{2} \\ 1 - \sqrt{2} \end{matrix}$	
(ب) $x^2 + x - 4 = 0$ $\Delta = b^2 - 4ac = 1 + 16 = 17$ $x = \frac{-1 \pm \sqrt{17}}{2} \rightarrow \begin{matrix} x = \frac{-1 + \sqrt{17}}{2} \\ x = \frac{-1 - \sqrt{17}}{2} \end{matrix}$	۵

$$\text{ا)} \quad x^2 - 11x + 21 = 0$$

$$(x-4)(x-7) = 0 \quad \begin{cases} x=4 \\ x=7 \end{cases}$$

$$\text{ب)} \quad x^2 + 3x - 21 = 0$$

$$(x-4)(x+7) = 0 \quad \begin{cases} x=4 \\ x=-7 \end{cases}$$

$$\text{ا)} \quad \Delta x^2 - 12x + 7 = 0$$

$$2x^2 - 12x + 7 = 0$$

$$(x-5)(x-1) = 0 \quad \begin{cases} x = \frac{\Delta}{\Delta} = 1 \\ x = \frac{7}{2} \end{cases}$$

$$\text{ب)} \quad 3x^2 - 10x + 7 = 0$$

$$x^2 - 10x + 21 = 0$$

$$(x-3)(x-7) = 0 \quad \begin{cases} x = \frac{10}{3} = 1 \\ x = \frac{7}{3} \end{cases}$$

(از مجموع ضرایب هم می شود رفت)

$$\text{ا)} \quad (x^2 - 5x + 3 = 0)$$

$$4x^2 - 10x + 4 = 0$$

$$(2x-1)(2x-3) = 0 \quad \begin{cases} 2x-1=0 \\ 2x-3=0 \end{cases} \quad \begin{cases} x=\frac{1}{2} \\ x=\frac{3}{2} \end{cases}$$

(از مجموع ضرایب هم می شود رفت)

$$2) \quad 2x^2 - 5x + 1 = 0$$

$$\Delta = b^2 - 4ac = 25 - 4 = 21$$

$$x = \frac{5 \pm \sqrt{21}}{4} = \frac{5 \pm \sqrt{21}}{4} \quad \begin{cases} x = \frac{5 + \sqrt{21}}{4} \\ x = \frac{5 - \sqrt{21}}{4} \end{cases}$$

$$\text{ب)} \quad 2x^2 + 5x + 3 = 0$$

$$x^2 + 5x + 6 = 0$$

$$(x+2)(x+3) = 0 \quad \begin{cases} x = -2 \\ x = -3 \end{cases}$$

(از مجموع ضرایب هم می شود رفت)

$$>) \quad x^2 + 7x + 4 = 0 \quad \Delta = b^2 - 4ac = 49 - 16 = 33$$

معادله جواب ندارد $\Delta < 0$

$$x^2 - 3x - 2 = 0$$

$$\text{ا)} \quad S^2 - 2P = \left(\frac{-b}{a}\right)^2 - 2\left(\frac{c}{a}\right) = 9 - 2\left(\frac{-2}{1}\right) = 9 + 4 = 13$$

$$\text{ب)} \quad S^3 - 3SP = 27 + 12 = 39$$

$$S = \frac{-b}{a} = \frac{+3}{1} = +3 \quad P = \frac{c}{a} = \frac{-2}{1} = -2$$

$$\text{ا)} \quad \begin{pmatrix} 5 \\ 4 \end{pmatrix} + \begin{pmatrix} 9 \\ 7 \end{pmatrix} = \begin{pmatrix} 5 \\ 7 \end{pmatrix} + \begin{pmatrix} 9 \\ 7 \end{pmatrix} = \frac{5 \times 4}{7} + \frac{9 \times 9}{7} = 21 + 12 = 33$$

$$\text{ب)} \quad \begin{pmatrix} 9 \\ 7 \end{pmatrix} - \begin{pmatrix} 5 \\ 7 \end{pmatrix} = \frac{9 \times 4}{7} - \frac{5 \times 9}{7} = 12 - 18 = -6$$