

$$x^2 - 11x + 18 = 0$$

$$(x-4)(x-3) = 0 \quad \begin{cases} x=4 \\ x=3 \end{cases}$$

(الف)

$$x^2 + 3x - 18 = 0$$

$$(x-4)(x+3) = 0 \quad \begin{cases} x=4 \\ x=-3 \end{cases}$$

(ب)

$$a x^2 - 12x + 1 = 0$$

(الف)

$$x^2 - 12x + 3a = 0$$

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

$$3x^2 - 10x + 1 = 0$$

(ب)

$$x^2 - 10x + 1 = 0$$

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

$$2x^2 - 5x + 3 = 0$$

$$2x^2 + 5x + 3 = 0$$

$$2x^2 - 5x + 1 = 0$$

$$5x^2 + 7x + 9 = 0$$

$$x = 1, x = \frac{3}{2}$$

$$x = -1, x = -\frac{3}{2}$$

$$x = \frac{5 \pm \sqrt{25-8}}{4}$$

$$x = \frac{-7 \pm \sqrt{49-180}}{10}$$

$$x = 1, x = \frac{3}{2}$$

$$x = -1, x = -\frac{3}{2}$$

$$x = \frac{5 \pm \sqrt{17}}{4}$$

$$x = \frac{-7 \pm \sqrt{49-180}}{10}$$

$$x = \frac{5 \pm \sqrt{17}}{4}$$

$$x^2 - 13x - 2 = 0$$

$$5x^2 - 13x - 2 = 0$$

$$5x^2 - 13x - 2 = 0 \quad (-13)^2 - 4(5)(-2) = 169 + 40 = 209$$

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$$\begin{pmatrix} 1 \\ 2 \end{pmatrix} + \begin{pmatrix} 3 \\ 4 \end{pmatrix} = ?$$

$$\begin{pmatrix} 1 \\ 2 \end{pmatrix} = \begin{pmatrix} 1 \\ 2 \end{pmatrix} = \frac{1 \times 1}{2} = \frac{1}{2}$$

$$\begin{pmatrix} 3 \\ 4 \end{pmatrix} = \frac{3 \times 4}{4} = 3$$

$$11 + 34 = 45$$

$$\begin{pmatrix} 1 \\ 2 \end{pmatrix} = \frac{1 \times 1}{2} = \frac{1}{2}$$

$$\begin{pmatrix} 1 \\ 2 \end{pmatrix} = \frac{1 \times 1}{2} = \frac{1}{2}$$

$$11 + 34 = 45$$

$$\begin{pmatrix} 3 \\ 4 \end{pmatrix} - \begin{pmatrix} 1 \\ 2 \end{pmatrix} = ?$$

$$y = x^2 + 4x + 5$$

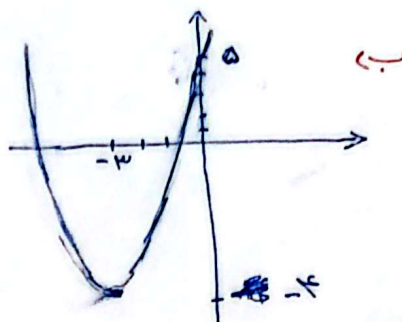
نقطه : $a > 0 \Rightarrow \text{Min}$

$$\text{ext} \left| \frac{-b}{2a} = \frac{-4}{2} = -2 \right|$$

$$9 + (-16) + (5) = -2$$

(الف)

$$\text{ext} \left| \begin{matrix} -3 \\ -5 \end{matrix} \right|$$



1

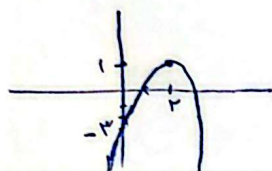
$$y = -x^2 + 4x - 3$$

$a < 0 \Rightarrow \text{Max}$

$$\text{ext} \left| \frac{-b}{2a} = 2 \right|$$

$$-4 + 16 - 3 = 9$$

(الف)



برای اینک و معادله را مساوی صفر قرار دهیم:

$$-x^2 + 4x - 3 = 0$$

$$x^2 - 4x + 3 = 0$$

$$(x-1)(x-3) = 0$$

$$x-1 = 0 \Rightarrow x=1$$

$$x-3 = 0 \Rightarrow x=3$$

3 و 1 ←

2

$$4x^2 - 3x + a = 0$$

(الف) $\Delta < 0$

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

$$\Delta = 9 - 16a > 0 \Rightarrow a < \frac{9}{16}$$

$$\Delta = 9 - 16a > 0 \Rightarrow a < \frac{9}{16}$$

$$x = \frac{3 \pm \sqrt{9 - 16a}}{4}$$

$\Delta = 0$ (ب)

$$\Delta = 9 - 16a = 0$$

$$a = \frac{9}{16}$$

$\Delta > 0$ (ج)

$$\Delta = 9 - 16a > 0$$

$$a < \frac{9}{16}$$

$\Delta \geq 0$ (د)

$$\Delta = 9 - 16a \geq 0$$

$$a \leq \frac{9}{16}$$

3

$$x^2 - 2x - 1 = 0$$

$$(x^2 - 2x + 1) = 2$$

$$(x-1)^2 = 2$$

$$x-1 = \pm \sqrt{2}$$

$$x = 1 \pm \sqrt{2}$$

(الف)

(ب)

$$x^2 - x - 1 = 0$$

$$\left(x - \frac{1}{2}\right)^2 = \frac{5}{4}$$

$$x - \frac{1}{2} = \pm \sqrt{\frac{5}{4}}$$

$$x = \frac{1}{2} \pm \frac{\sqrt{5}}{2}$$

(ب)

4

$$x^2 - 2x - 1 = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{2 \pm \sqrt{4 + 4}}{2} = \frac{2 \pm \sqrt{8}}{2} = 1 \pm \sqrt{2}$$

$$\frac{2(1 \pm \sqrt{2})}{2} = 1 \pm \sqrt{2}$$

$$x_1 = 1 + \sqrt{2}$$

$$x_2 = 1 - \sqrt{2}$$

(الف)

(ب)

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

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-1 \pm \sqrt{1 + 8}}{2} = \frac{-1 \pm \sqrt{9}}{2}$$

$$x = \frac{-1 \pm 3}{2}$$

$$x_1 = 1$$

$$x_2 = -2$$

(ب)

5