

$$\text{الف) } x^2 - 4x + 8 = 0 \xrightarrow{+1} x^2 - 4x + 9 = 1 \rightarrow (x-3)^2 = 1 \rightarrow x-3 = \pm 1 \rightarrow x = 4, x = 2$$

$$\text{ب) } x^2 + 11x + 17 = 0 \xrightarrow{+9} x^2 + 11x + 16 = 9 \rightarrow (x+4)^2 = 9 \rightarrow x+4 = \pm 3 \rightarrow x = -1, x = -7$$

$$\text{الف) } x^2 - 5x + 4 = 0 \rightarrow (x-2)(x-3) = 0 \rightarrow x = 2, x = 3$$

$$\text{ب) } x^2 - 5x - 14 = 0 \rightarrow (x-7)(x+2) = 0 \rightarrow x = 7, x = -2$$

$$\text{الف) } x^2 - 3x - 5 = 0 \rightarrow \frac{3 \pm \sqrt{9+20}}{2} = \frac{3 \pm \sqrt{29}}{2} \quad \text{فرمول} \quad \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\text{ب) } 2x^2 - 4x + \frac{1}{2} = 0 \rightarrow \frac{4 \pm \sqrt{16-2}}{4} = \frac{4 \pm \sqrt{14}}{4}$$

$$\text{الف) } x^2 - 3x + 2 = 0 \rightarrow a+b+c = 0 \rightarrow x = 1, x = \frac{c}{a} = 2$$

$$\text{ب) } 4x^2 + 11x - 3 = 0 \rightarrow a+c = b \rightarrow x = -1, x = -\frac{c}{a} = \frac{3}{4}$$

$$\text{الف) } 5x^2 - 12x + 7 = 0 \rightarrow x^2 - 12x + 35 = 0 \rightarrow (x-7)(x-5) = 0 \rightarrow x = \frac{7}{5}, x = \frac{5}{5} = 1$$

$$\text{ب) } 3x^2 - 11x + 7 = 0 \rightarrow x^2 - 11x + 21 = 0 \rightarrow (x-3)(x-7) = 0 \rightarrow x = \frac{3}{3} = 1, x = \frac{7}{3}$$

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

الف) $3x^2 + 5x - 1 = 0 \rightarrow \frac{-5 \pm \sqrt{25 - 12}}{-6} = \frac{-5 \pm \sqrt{13}}{-6}$ (4)

ب) $2x^2 - x + 2 = 0 \rightarrow \frac{1 \pm \sqrt{1 - 16}}{4} = x \notin \mathbb{R}$
دلتا منفی

ج) $2x^2 - 4x + 2 = 0 \rightarrow \frac{4 \pm \sqrt{16 - 16}}{4} = 0 \rightarrow x = 1$
دلتا صفر

د) $2x^2 - x + 1 = 0 \rightarrow \frac{1 \pm \sqrt{1 - 8}}{4} = x \notin \mathbb{R}$
دلتا منفی

الف) یعنی دلتا مثبت $2x^2 - 3x + a = 0 \rightarrow 9 - 12a > 0 \rightarrow \frac{9}{12} > a$ (V)

ب) یعنی دلتا صفر $2x^2 - 3x + a = 0 \rightarrow 9 - 12a = 0 \rightarrow 9 = 12a \rightarrow a = \frac{9}{12}$

ج) یعنی دلتا منفی $2x^2 - 3x + a = 0 \rightarrow 9 - 12a < 0 \rightarrow 9 < 12a \rightarrow \frac{9}{12} < a$

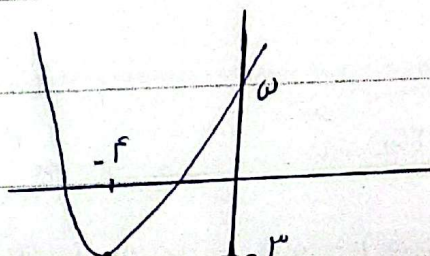
د) یعنی دلتا منفی نباشد $2x^2 - 3x + a = 0 \rightarrow 9 - 12a \geq 0 \rightarrow 9 \geq 12a \rightarrow \frac{9}{12} \geq a$

الف) $y = x^2 + 4x + 5 \rightarrow \frac{-b}{2a} = \frac{-4}{2} = -2 = x$ (1)

$y = 9 - 12 + 5 = -1$

$\begin{matrix} 1 - 3 \\ 1 - 4 \end{matrix} \quad \min$

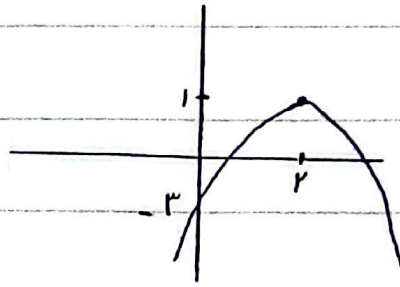
ب)



$$\text{الف) } y = -x^2 + 6x - 3 \rightarrow \frac{-b}{2a} = \frac{-6}{-2} = 3 = x \quad (9)$$

$$y = -x^2 + 6x - 3 = (1)$$

$$\text{Max} \mid \begin{matrix} 1 \\ 1 \end{matrix}$$



$$\text{ب) } 0 = -x^2 + 6x - 3 \rightarrow a, b, c = 0 \rightarrow x = 1, x = \frac{-3}{-1} = 3$$

$$s = \frac{-b}{a} = 3 \quad p = \frac{c}{a} = -3 \quad x^2 - 3x - 3 = 0 \quad (10)$$

$$\text{الف) } s - p = 3 + 3 = 6$$

$$\text{ب) } 2V - (3)(3)(-3) = 2V + 27 = 60$$

♥ خسته نباشید