نام و نام خانوادگی ....[illegible].... پاسخنامه تشریحی تکلیف شماره ...۱... کلاس ...دهم تجربی A...

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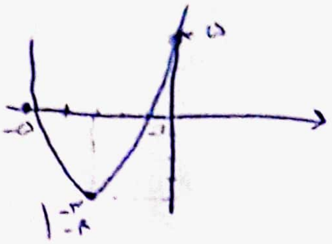
الف) $y = x^2 + 6x + 5 \Rightarrow Min \left| \begin{matrix} \frac{-6}{2} \\ y \end{matrix} \right. = \left| \begin{matrix} -3 \\ -4 \end{matrix} \right.$ $\quad Min = \left| \begin{matrix} -3 \\ -4 \end{matrix} \right.$

ب) $\Leftarrow$



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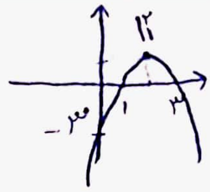
الف) $y = -x^2 + 4x - 3 \quad Max \left| \begin{matrix} 2 \\ 1 \end{matrix} \right. \Rightarrow$



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

$-(x^2 - 4x + 3) = 0 \Rightarrow -(x-1)(x-3) = 0 \Rightarrow \begin{cases} x_1 = 1 \\ x_2 = 3 \end{cases}$

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الف) $2x^2 - 3x + a = 0 \quad b^2 - 4ac > 0 \Rightarrow 9 - 8a > 0 \Rightarrow 9 > 8a \Rightarrow \frac{9}{8} > a$

ب) $b^2 - 4ac = 0 \Rightarrow b^2 = 4ac \Rightarrow 9 = 8a \Rightarrow a = \frac{9}{8}$

ج) $b^2 - 4ac < 0 \quad b^2 < 4ac \Rightarrow 9 < 8a \Rightarrow \frac{9}{8} < a$

د) $b^2 - 4ac \geq 0 \quad b^2 \geq 4ac \quad 9 \geq 8a \Rightarrow \frac{9}{8} \geq a$

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الف) $x^2 - 2x - 1 + 2 = +2 \Rightarrow x^2 - 2x + 1 = 2 \Rightarrow (x-1)^2 = 2$

$\Rightarrow x - 1 = \pm\sqrt{2} \Rightarrow \begin{cases} x_1 = 1 + \sqrt{2} \\ x_2 = 1 - \sqrt{2} \end{cases}$

ب) $x^2 - x - 1 = 0 \Rightarrow x^2 - x - 1 + \frac{5}{4} = \frac{5}{4} \Rightarrow x^2 - x + \frac{1}{4} = \frac{5}{4} \Rightarrow (x - \frac{1}{2})^2 = \frac{5}{4}$

$x - \frac{1}{2} = \pm \frac{\sqrt{5}}{2} \Rightarrow x = \begin{cases} \frac{1+\sqrt{5}}{2} \\ \frac{1-\sqrt{5}}{2} \end{cases}$

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الف) $x^2 - 2x - 1 = 0 \quad x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{2 \pm \sqrt{8}}{2} \Rightarrow \begin{cases} x_1 = 1 + \sqrt{2} \\ x_2 = 1 - \sqrt{2} \end{cases}$

ب) $x^2 + x - 4 = 0 \quad x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-1 \pm \sqrt{17}}{2} \Rightarrow \begin{cases} x_1 = \frac{-1 - \sqrt{17}}{2} \\ x_2 = \frac{-1 + \sqrt{17}}{2} \end{cases}$

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الف) $x^2 - 11x + 28 = 0 \Rightarrow (x-4)(x-7) = 0 \Rightarrow \begin{cases} x_1 = 4 \\ x_2 = 7 \end{cases}$ (۲)

ب) $x^2 + 3x - 28 = 0 \Rightarrow (x+7)(x-4) = 0 \Rightarrow \begin{cases} x_1 = -7 \\ x_2 = 4 \end{cases}$

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الف) $5x^2 - 12x + 7 = 0 \Rightarrow x^2 - 12x + 35 = 0 \Rightarrow (x-5)(x-7) = 0 \Rightarrow \begin{cases} x_1 = \frac{5}{5} = 1 \\ x_2 = \frac{7}{5} \end{cases}$ (۲)

ب) $3x^2 - 10x + 7 = 0 \Rightarrow x^2 - 10x + 21 = 0 \Rightarrow (x-3)(x-7) = 0 \Rightarrow \begin{cases} x_1 = \frac{3}{3} = 1 \\ x_2 = \frac{7}{3} \end{cases}$

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الف) $2x^2 - 5x + 3 = 0$ $a+b+c=0 \Rightarrow x_1 = 1$, $x_2 = \frac{c}{a} = \frac{3}{2}$ (۲)

ب) $2x^2 + 5x + 3 = 0$ $a+c=b \Rightarrow x_1 = -1$, $x_2 = -\frac{c}{a} = \frac{-3}{2}$

ج) $2x^2 - 5x + 1 = 0$ $\Delta \Rightarrow \frac{5 \pm \sqrt{17}}{4} \Rightarrow x_1 = \frac{5+\sqrt{17}}{4}$, $x_2 = \frac{5-\sqrt{17}}{4}$

د) $4x^2 + 7x + 9 = 0$ $\Delta \Rightarrow \frac{-7 \pm \sqrt{-95}}{8} =$ ریشه ندارد

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$x^2 - 3x - 2 = 0$ $S = \frac{-b}{a}$ $P = \frac{c}{a} \Rightarrow S = 3$ $P = -2$

الف) $S^2 - 2P = 3^2 - 2(-2) = 13$ (۲)

ب) $S^3 - 3SP = 3^3 - 3 \times 3 \times (-2) = 45$

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الف) $\binom{5}{2} + \binom{6}{2} = \binom{7}{2} = \frac{7 \times 6 \times 5}{3!} = 35$ (۲)

ب) $\binom{9}{3} - \binom{7}{2} = \frac{9 \times 8 \times 7}{3!} - \frac{7 \times 6}{2!} = 63$