

نام و نام خانوادگی پاسنامه تشریحی تکلیف شماره کلاس (دعیم (ج-س)

الف) $x^2 - 4x + 8 = 0 \Rightarrow x^2 - 4x + 8 + 1 - 1 = 0 \Rightarrow (x-3)^2 = 1 \Rightarrow x-3 = \pm 1 \Rightarrow \begin{cases} x=4 \\ x=2 \end{cases}$

ب) $x^2 + 12x + 7 = 0 \Rightarrow x^2 + 12x + 36 - 9 = 0 \Rightarrow x^2 + 12x + 36 = 9 \Rightarrow (x+6)^2 = 9 \Rightarrow x+6 = \pm 3 \Rightarrow \begin{cases} x=-3 \\ x=-9 \end{cases}$

الف) $x^2 - 5x + 6 = 0 \Rightarrow (x-2)(x-3) = 0 \Rightarrow \begin{cases} x=2 \\ x=3 \end{cases}$

ب) $x^2 - 5x - 14 = 0 \Rightarrow (x+2)(x-7) = 0 \Rightarrow \begin{cases} x=-2 \\ x=7 \end{cases}$

الف) $x^2 - 3x - 5 = 0$
 $x = \frac{3 \pm \sqrt{9+20}}{2} \Rightarrow \begin{cases} x = \frac{3+\sqrt{29}}{2} \\ x = \frac{3-\sqrt{29}}{2} \end{cases}$

ب) $2x^2 - 4x + \frac{1}{2} = 0$
 $x = \frac{4 \pm \sqrt{16-2}}{4} \Rightarrow \begin{cases} x = \frac{4+\sqrt{14}}{4} \\ x = \frac{4-\sqrt{14}}{4} \end{cases}$

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

ب) $4x^2 + x - 3 = 0 \Rightarrow x^2 + x - 12 = 0 \Rightarrow (x-3)(x+4) = 0 \Rightarrow \begin{cases} x=3 \\ x=-4 \end{cases}$

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

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

الف) $x^2 + 2x - 1 = 0 \Rightarrow x = \frac{-b \pm \sqrt{\Delta}}{2a} \Rightarrow \Delta = b^2 - 4ac$

ب) $x^2 - x + 2 = 0 \Rightarrow x = \frac{1 \pm \sqrt{1-8}}{2} \Rightarrow \Delta = 1 - 8 = -7$ منفی و ریشه ندارد ✓
 $\begin{cases} x = \frac{1 + \sqrt{-7}}{2} \\ x = \frac{1 - \sqrt{-7}}{2} \end{cases} \rightarrow \begin{cases} x = \frac{1 + \sqrt{7}i}{2} \\ x = \frac{1 - \sqrt{7}i}{2} \end{cases}$ ✓

ج) $x^2 - 5x + 2 = 0 \Rightarrow x = \frac{5 \pm \sqrt{25-8}}{2} \Rightarrow x = \frac{5 \pm \sqrt{17}}{2}$ اریبه ✓
 $\Delta = 25 - 8 = 17$ ✓

د) $x^2 - x + 1 = 0 \Rightarrow x = \frac{1 \pm \sqrt{1-4}}{2} \Rightarrow \Delta = 1 - 4 = -3$ منفی و ریشه ندارد ✓

$\Delta = b^2 - 4ac \quad x^2 - 2x + a \Rightarrow \Delta = 4 - 4a$

$\Delta > 0 \Rightarrow 4 - 4a > 0 \Rightarrow a < 1$ ✓

$\Delta \geq 0 \rightarrow$ ✓

$4 - 4a \geq 0 \Rightarrow 1 \geq a$ ✓

$\Delta < 0 \rightarrow$ ✓

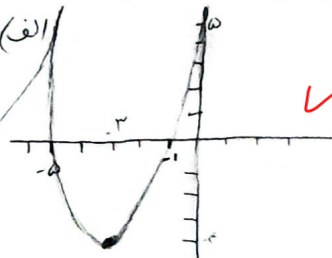
$4 - 4a < 0 \Rightarrow a > 1$ ✓

$\Delta = 0$ ✓

$4 - 4a = 0 \Rightarrow 4 = 4a \Rightarrow a = 1$ ✓

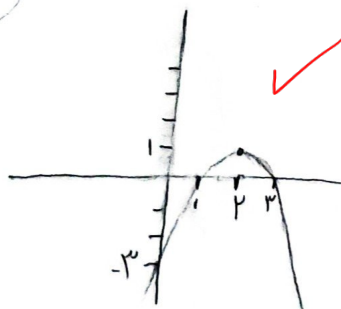
ext $\left| \frac{-b}{2a} \Rightarrow \frac{-2}{2} = -1 \right.$
 $9 - 4 + 2 = -1$ ✓

$y = x^2 + 2x + 2$ (الف)
 $\min \left| \frac{-b}{2a} \right|$



$(x+1)(x+1) = 0$
 $\Rightarrow \begin{cases} x = -1 \\ x = -1 \end{cases}$

ext $\left| \frac{-b}{2a} = \frac{-2}{-2} = 1 \right.$
 $-4 + 4 - 1 = -1$
 $\max \left| \frac{-b}{2a} \right|$



$y = -x^2 + 4x - 3$ (ب)

$y = x^2 + 2x + 2$

$y = (x+3)(x+1) \Rightarrow \begin{cases} x = \frac{-3}{1} = -3 \\ x = \frac{-1}{1} = -1 \end{cases}$

در نقاط $(-3, 0)$ و $(-1, 0)$ ✓

$P = \frac{C}{a} = \frac{-2}{1} = -2$

$S^2 - 2P = (3)^2 - 2(-2) = 9 - (-4) = 13$ ✓

$S^2 - 2SP = (3)^2 - 2(3)(-2) = 9 + 12 = 21$ ✓

$x^2 - 2x - 2 = 0$ (الف)

$S = -\frac{b}{a} = -\frac{-2}{1} = 2$

$\Delta = 4 + 8 = 12$ ✓

$x = \frac{2 \pm \sqrt{12}}{2} = 1 \pm \sqrt{3}$ ✓