۲۰) آزمون مشترک فیزیک ۱۳

۱- $\frac{-b}{2a}=1 \quad \frac{-1}{2(a-1)}=1 \quad 4a-4=-1 \quad 4a=3 \quad a=\frac{3}{4}$ ✓

$0=\frac{-1}{2}x^2+mx+2 \rightarrow m=\frac{-b\pm\sqrt{\Delta}}{2a}=\begin{cases}\frac{-1+2}{\frac{-1}{2}}=-2 \\ \frac{-1-2}{\frac{-1}{2}}=6\end{cases}$ ✓

۲- ۱) $m<0$

۲) $\Delta<0 \rightarrow$ ریشه ندارد $\rightarrow b^2-4ac<0 \quad 9-4m^2<0$ ✓

$4m^2>9 \rightarrow m<-\frac{3}{2}$ یا $m>\frac{3}{2}$

$1\wedge 2 \rightarrow m<-\frac{3}{2}$

۳- $S=\frac{-\sqrt{5}-3}{2}+\frac{\sqrt{5}+3}{2}=3$

$P=\frac{(\sqrt{5}+3)(\sqrt{5}-3)}{4}=\frac{4}{4}$ ✓

$y=4x^2-18x+4=0$

۴- $S=\frac{8}{4} \quad \alpha+\beta=4 \rightarrow \beta=4-\alpha$

$2\alpha^2+(4-\alpha)^2=12$

$2\alpha^2+16+\alpha^2-8\alpha=12$

$3\alpha^2-8\alpha+4=0$

$\alpha^2-2\alpha+1=0 \rightarrow \alpha=1$

$1-8+m-2=0$

$m=9$ ✓

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-۵

$y = a(x-2)^2 + 9$

$4a + 9 = 5 \rightarrow a = -1$ (۳)

$-(x-2)^2 + 9 > 0$

$(x-2)^2 - 9 < 0$

$x^2 + 4 - 4x - 9 < 0$

$x^2 - 4x - 5 < 0 \rightarrow (x-5)(x+1) < 0$

	-1		5	
$+$		$-$		$+$

$(-1, 5)$

-۶

$P = \alpha\beta = \frac{9\beta}{\alpha}$ $\quad \alpha^2\beta = 9\beta$ $\quad \alpha^2 = 9 \rightarrow \alpha = \pm 3$

$S = \alpha + \beta = \frac{7}{8}$

$\alpha = +3 \rightarrow \frac{7}{3} = 3 + \beta \rightarrow \beta = -\frac{2}{3}$ ✗ (۲)

✓ $\alpha = -3 = -\frac{7}{3} = -3 + \beta \rightarrow \beta = \frac{2}{3}$ ✓

$-\frac{1}{3} + \frac{3}{2} = \frac{7}{6}$

-۷

$\beta^2 + m\beta - 2m = 0 \rightarrow \beta^2 - 2m = -m\beta$ (۱)

$\alpha^2 - m\beta = 8$ $\quad \underline{\alpha^2 + \beta^2} - 2m = 8 \rightarrow x^2 + 4m - 2m - 8 = 0$

$S^2 - 2P$ $\quad m^2 + 2m - 8 \rightarrow m = -4$

$m = +2$

$m = -4 \rightarrow x^2 - 4x + 8 = 0 \rightarrow \Delta < 0$ ریشه ندارد

$m = 2 \rightarrow x^2 + 2x - 4 = 0 \rightarrow S = \frac{-b}{2a} = -2$

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$-\frac{\Delta}{\varepsilon a} = \Lambda \quad -\Delta = \gamma\gamma a$ -۹

$-(14 - \varepsilon(m)(\frac{m}{\gamma} + V)) = \gamma\gamma m$

$-14 + \gamma m^{\gamma} + \gamma\Lambda m = \gamma\gamma m$

$\gamma m^{\gamma} - \varepsilon m - 14 = 0$

$m^{\gamma} - \gamma m - \Lambda = 0 \longrightarrow m = \varepsilon \times$
$m = \gamma \checkmark$

$-\gamma x^{\gamma} + \varepsilon x + \gamma = 0$

$x^{\gamma} - \gamma x - \gamma = 0$

$x = \gamma \checkmark$
$x = -1 \times$
$k = \gamma$

(۵)

$y = a(x-\gamma)^{\gamma} + \gamma \longrightarrow \varepsilon a + \gamma = \varepsilon \rightarrow \varepsilon a = -\gamma \rightarrow a = -\frac{1}{\gamma}$ -۹

$-\frac{1}{\gamma}(x^{\gamma} - \varepsilon x + \varepsilon) + \gamma \longrightarrow -\frac{1}{\gamma}x^{\gamma} + \gamma x - \gamma + \gamma \rightarrow -\frac{1}{\gamma}x^{\gamma} + \gamma x + \varepsilon$

(۵)

$-x^{\gamma} + \varepsilon x + \Lambda \qquad \frac{1}{\alpha} + \frac{1}{\beta} = \frac{\varepsilon}{-\Lambda} = -\frac{1}{\gamma}$

$x = \gamma \longrightarrow \varepsilon - \Lambda a - \Lambda + \gamma a^{\gamma} + \gamma a + \gamma = 0$ -۱۰

$\gamma a^{\gamma} - \gamma a - 1 = 0 \longrightarrow a^{\gamma} - \gamma a - \gamma = 0 \quad \begin{cases} a = 1 \\ a = -\frac{1}{\gamma} \end{cases}$

(۵)

$a = 1 \longrightarrow x^{\gamma} - \Lambda x + 1\gamma = 0 \quad \begin{cases} x = 6 \\ x = \gamma \end{cases}$

$a = -\frac{1}{\gamma} \rightarrow x^{\gamma} - \frac{\Lambda}{\gamma}x + \frac{\varepsilon}{\gamma} \quad \begin{cases} x = \gamma \\ x = \frac{\gamma}{\gamma} \end{cases}$

$x = 6, \frac{\gamma}{\gamma}$