(ایرعلی وحید) (گروه A)

۱- $-x^2+bx+3=x \rightsquigarrow \frac{-b}{-2}=\frac{b}{2}$ $\quad \frac{\sqrt{b^2-4(-3)}}{|-1|} \rightarrow \frac{\sqrt{b^2+12}}{1}=7 \rightarrow b^2+12=49$

$b=\sqrt{37} \leftarrow b=\pm\sqrt{37} \leftarrow$

۲- الف) ریشه ندارد. ب) $t^2-2t-15 \rightarrow (t-5)(t+3) \rightarrow t=5,-3$ ←

$x^2=-1$ ← $4-x^2=5$ ← $4-x^2=-3$ ←

$x=\pm\sqrt{7} \leftarrow x^2=7$

۳- $\alpha+2=\beta \rightarrow (\alpha+2)\alpha=\alpha^2+2\alpha=\frac{m}{4} \rightarrow m=12$

$\alpha+2+\alpha=2\alpha+2=4$

بس $\alpha=1$ بس

$\beta=3$

۴- $\begin{cases}2\alpha-\beta=4 \\ \alpha+\beta=2\end{cases} \rightarrow -\begin{cases}2\alpha-\beta=4 \\ 2\alpha+2\beta=4\end{cases}$

$-3\beta=0 \rightarrow \beta=0$ جایگذاری $3(0)^2-6(0)+m-1=0 \rightarrow m=1$

۵- $\frac{m^2-2}{-m}=-1 \rightarrow m^2-2=-m \rightarrow m^2+m-2=0 \rightarrow (m+2)(m-1)$

$m=-2,1$

۶- $\underbrace{\alpha\times\beta}_{2}\times\beta=4 \rightarrow \beta=\frac{4}{3}$ جایگذاری $\frac{16}{9}-\frac{4}{3}m+3=0 \rightarrow \frac{43}{9}=\frac{4m}{3} \rightarrow 12m=43$

$\frac{16+27}{9}=\frac{43}{9}$ $\quad m=\frac{43}{12}$

۷- $2\alpha=\beta \rightarrow 2\alpha+\alpha=3\alpha=4$

$\alpha=1 \xrightarrow{\text{جایگذاری}} 1-4+m=0 \Rightarrow m=3$

۸- $\alpha^3+\frac{8}{\alpha^3} \xrightarrow{\text{جمله}} \frac{\alpha^3}{\alpha^3}+\frac{\beta^3}{\beta^3}=S^3-3SP \rightarrow (7)^3-3(7)(3) \rightarrow \alpha^3+\frac{8}{\alpha^3}=301$

$\alpha^3\beta^3-4^2$

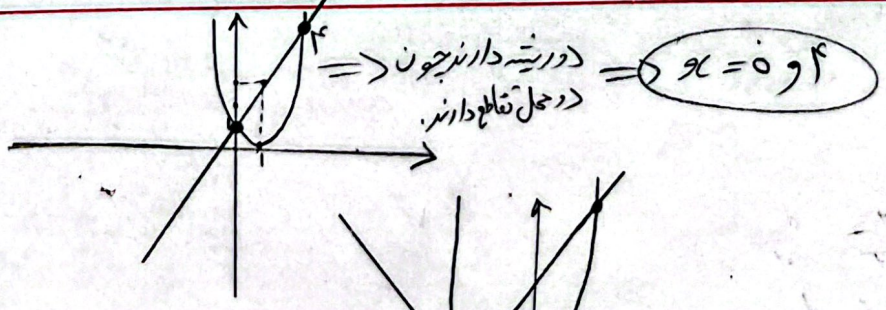
۹- $h(t)=-10t^2+50t \rightarrow \frac{\sqrt{\Delta}}{|a|} \rightarrow \frac{\sqrt{2500}}{|-10|} \rightarrow \frac{50}{10}=\omega=Max_{h(t)}$

$0=-10t^2+50t$

$t(-10t+50) \rightarrow t=0 \times$

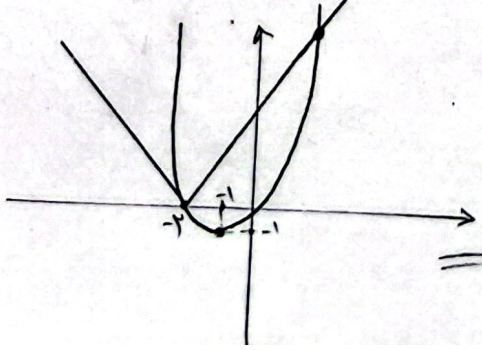
$t=5$ ✓

۱۰- الف)



دو ریشه دارند چون دو محل تقاطع دارند. $\Rightarrow x=0,4$

ب)



$\Rightarrow x=-2,1$