نام و نام خانوادگی: [illegible]   کلاس یازدهم ریاضی   تکلیف شماره: ۱۴   ۱۹

1. $-x^2+bx+3 \to \frac{-\Delta}{4a}=7 \to \frac{-(b^2+12)}{-4}=7 \Rightarrow b^2=28-12=16 \Rightarrow b=\pm 4$ (۲)

2. الف) $f(x)=x^4+2x^2+3 \to \Delta<0 \Rightarrow$ [illegible]

ب) $t^2-2t-15=0 \to (t-5)(t+3)=0 \to 4-x^2=5 \to x^2=-1$ ×

$4-x^2=-3 \to x=\pm\sqrt{7}$] (۲)

3. $4x^2-16x+m=0$ ، $\alpha, \alpha+2$ $\to 2\alpha+2=\frac{16}{4} \to 2\alpha=2 \Rightarrow \alpha=1$ (۱,۷۵)

$\to \frac{m}{4}=\frac{c}{a}=1(\cancel{1+2})^{3} \to m=3\times4=12$] $\Rightarrow 4x^2-16x+12=0 \xrightarrow{a+b+c=0} 1, \frac{12}{4}=3$]

$4x^2-16x+12=0$
$\Delta>0$ ✓

4. $3x^2-6x+m-1=0 \to 2\alpha-\beta=4 \Rightarrow \beta=2\alpha-4$ (۱,۷۵)

$S=2\alpha-4+\alpha=3\alpha=2+4 \Rightarrow \alpha=2 \to \beta=2(2)-4=0 \Rightarrow \alpha\cdot\beta=\frac{c}{a}=\frac{m-1}{3}=0 \Rightarrow m=1$]

$3x^2-6x=0$ $\Delta>0$ ✓

5. $-mx^2+4x+m^2-2=0 \to x, \frac{1}{\alpha} \Rightarrow \alpha\times\frac{1}{\alpha}=\frac{c}{a}=\frac{m^2-2}{-m}=1 \Rightarrow m^2+m-2=0$

$(m+2)(m-1)=0 \to m=-2$ ، $m=1$

if $m=-2 \to 2x^2+4x+2 \to \Delta=0$ ✗
$m=1 \to -x^2+4x-1 \to \Delta>0$ ✓ $\Rightarrow m=1$] (۲)

6. $\alpha, \beta \to x^2-mx+3=0 \to \alpha=\frac{4}{\beta^2} \to P=\frac{c}{a}=3=\frac{4}{\beta^2}\times\beta \Rightarrow \frac{4}{\beta}=3 \Rightarrow \beta=\frac{4}{3}$

$\Rightarrow \alpha=\frac{4}{(\frac{4}{3})^2}=\frac{9}{4}$ / $S=\frac{-b}{a}=m=\frac{9}{4}+\frac{4}{3}=\frac{43}{12}$] $x^2-\frac{43x}{12}+3 \to \Delta>0$ ✓ (۱,۷۵)

7. $x^2-4x+m=0 \to \alpha, 3\alpha \to 4\alpha=4 \Rightarrow \alpha=1 \to 3\alpha^2=m=3(1)=3$] (۱,۷۵)

$x^2-4x+3 \to \Delta>0$ ✓

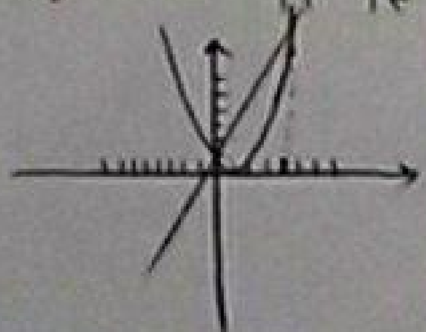
8. $x^2-7x+2=0 \to \alpha+\beta=7 , \alpha\beta=2 \Rightarrow \beta=2/\alpha \Rightarrow \alpha^3+\beta^3=\frac{8}{\alpha^3}+\alpha^3$ (۲)

$=S^3-3SP=343-42=301$

9. $h(t)=-10t^2+50t \to h_{max}=\frac{-\Delta}{4a}=\frac{-(2500-0)}{-40}=62.5m$]

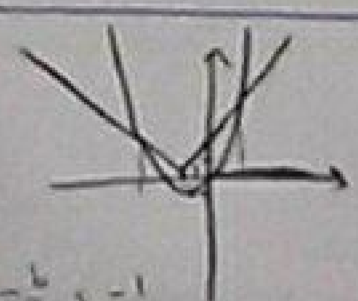
$h=0 \to 10t(-t+5)=0 \to t=0$
$\to t=5 \leftarrow$ ثانیه] (۲)

10. الف) $y=2x+1 \to$ | ۰ | ۱ |, | ۱ | ۳ |



$\to x=0 , x=4$

ب)



$x=-2$]
$x=1$]

$-\frac{b}{2a}=-1$
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(۲)