مرتبط آقای / تکلیف شماره ۱۳ / (۲۰) / یازدهم دفتر C

1. $\frac{-b}{2a}=2 \rightarrow \frac{-1}{2a-2}=2 \rightarrow 8a-8=-1 \rightarrow 8a=7 \rightarrow a=\frac{7}{8}$ (۲)

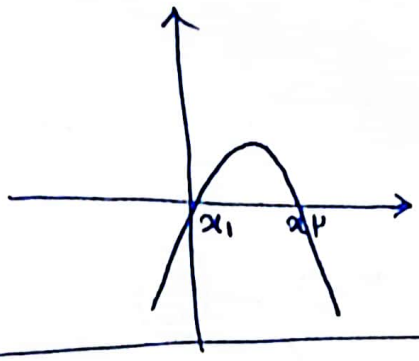
$-\frac{1}{8}x^2+x+7=y \longrightarrow -\frac{1}{8}x^2+x+7=0 \xrightarrow{\times(-8)} x^2-8x-56=0 \rightarrow (x-7)(x+8)=0$

$x=7$; $x=-8$

2. $\Delta=b^2-4ac \rightarrow 25-4m^2>0 \rightarrow (5-2m)(5+2m)>0$ (۲)

	$-\frac{5}{2}$		$\frac{5}{2}$	
	−	+	+	−

$m<0$



$m=(-\frac{5}{2},0)$ (۲)

3. $S=\frac{3-\sqrt{5}+\sqrt{5}+3}{3}=2$ $\quad P=\frac{9-5}{9}=\frac{4}{9}$ (۲)

$x^2-2x+\frac{4}{9}=0 \xrightarrow{\times 9} 9x^2-18x+4=0$

4. $\frac{m+2}{2}>0 \rightarrow m>-2$ $\quad 3\alpha^2+\beta^2=12 \rightarrow 2\alpha^2+2\beta^2+\alpha^2-\beta^2=12$

$2(\alpha^2+\beta^2)$

$2(S^2-2P)+\underbrace{(\alpha+\beta)}_{S}(\alpha-\beta)=$ (۲)

$2(16-m-2)+4\sqrt{-m+14}=12 \rightarrow$

$32-2m-4+2\sqrt{-m+14}=12 \rightarrow 2\sqrt{-m+14}=$

$\sqrt{-m+14}=m'-8 \rightarrow$ $\quad 14-m$

$-m+14=m'^2+64-16m' \rightarrow$

$m'^2-m'+12=0$

$(m-4)^2=0$ $\quad m=4$

$S=\frac{4}{2}=2$ $\quad P=\frac{m+2}{2}$

$\alpha-\beta=\frac{\sqrt{\Delta}}{|a|}=\frac{\sqrt{64-8m-16}}{2}=\frac{\sqrt{-m+14}}{2}$

$ax^2+bx+c=y \rightarrow ax^2+bx+d=y \rightarrow a(x-h)^2+k=y \rightarrow$ .5

$\frac{-b}{2a}=2 \quad \frac{-\Delta}{4a}=9 \quad a(2-h)^2+k=d \rightarrow ah^2+k=d \rightarrow 4a=-4 \rightarrow a=-1$

$h=2 \quad k=9 \quad b=4$ (2)

$-x^2+bx+d=y \rightarrow -4+2b+d=9 \rightarrow -4+2b=4 \rightarrow 2b=8 \rightarrow b=4$

$-x^2+4x+d=y \rightarrow -x^2+4x+d=0 \rightarrow -(x^2-4x-d)=0 \rightarrow x^2-4x-d=0 \rightarrow$

$(x-d)(x+1)=0$

$(-1, d)$

	-1	d	
	−	+	−

.6

$ax^2-5x+6=0$

$\beta>0 \quad \frac{1}{\alpha}+\frac{1}{\beta} \rightarrow \frac{\alpha+\beta}{\alpha\beta}=\frac{5}{6} \rightarrow \frac{1}{-2}+\frac{2}{3}=\frac{3-2}{-6}=\left(\frac{5}{6}\right)$ (2)

$\alpha x^2-5x+6\beta \xrightarrow{\alpha} \alpha^3-5\alpha+6\beta=0 \rightarrow \alpha^3-6\alpha=0 \rightarrow \alpha(\alpha^2-6)=0$ ریشه‌ی گویا $\alpha=0$ ریشه‌ی گنگ $\alpha=\pm\sqrt{6}$

$\beta^2\alpha-5\beta+6\beta=0 \rightarrow \beta^2\alpha+2\beta=0 \rightarrow \beta(\beta\alpha+2)=0 \rightarrow \beta=0$ ریشه‌ی گویا

$\beta\alpha=-2=\frac{6\beta}{\alpha} \rightarrow 6\beta=-2\alpha$

$\beta>0 \rightarrow \alpha<0 \rightarrow \alpha=-\sqrt{6}$

$\beta=\frac{6}{3}=\frac{\sqrt{6}}{\sqrt{6}}$

7.

$x^2+mx-2m=0 \to \beta^2+m\beta-2m=0 \to S=-m,\ P=-2m$

$\alpha^2-m\beta=8 \to -m=(\alpha+\beta) \to \alpha^2+(\alpha+\beta)\beta=8 \to \alpha^2+\alpha\beta+\beta^2=8$

$S^2-2P+P=8 \to S^2-P=8 \to m^2+m=8 \to$

$m^2+2m-8=0 \to (m+4)(m-2)=0 \to m=-4,\ m=2$

$x^2-4x+8=0 \to \Delta<0 \to$ × ریشه ندارد

$x^2+2x-4=0 \to \Delta>0 \to \alpha=-4 / \beta=2 \to \boxed{\alpha+\beta=-2}$

$(x+4)(x-2)=0$

8.

$y=mx^2+4x+\frac{m}{2}+7$

$m(\frac{m}{2}+7)=\frac{m^2}{2}+7m$

$\frac{-\Delta}{4a}=8 \to \frac{16-2m^2-28m}{-4m}=8 \to$

$-2m^2-28m+16=-32m \to -2m^2+4m+16=0$

$2m^2-4m-16=0 \to m^2-4m-32=0$

$(m-8)(m+4)=0$

$m=8$, $m=-\frac{4}{2}=-2$ ✓

چون منفی است max داره.

$-2x^2+4x+6=y \to$

$-2x^2+4x+6=0 \to x^2-4x-12=0 \to (x-6)(x+2)=0 \to x=-\frac{2}{2}=-1$, $\boxed{x=\frac{6}{2}=3}$

9.

$y=ax^2+bx+4 \quad a(x-2)^2+6=y \to a(-2)^2+6=4 \to 4a+6=4$

$4a=-2$

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

$-\frac{1}{2}(x-2)^2+6=y \to -\frac{x^2}{2}-2+2x+6=y \to -\frac{x^2}{2}+2x+4=y$

x^2+4-4x

$\frac{1}{\alpha}+\frac{1}{\beta}=\frac{\alpha+\beta}{\alpha\beta}=\frac{4}{-8}=\boxed{-\frac{1}{2}}$

$\varepsilon - (\lambda a + \lambda) + \mu a^{\gamma} + \varsigma a + \mu = \cdot \rightarrow \varepsilon - \lambda a - \lambda + \mu a^{\gamma} + \varsigma a + \mu = \cdot \rightarrow$

$\mu a^{\gamma} - \gamma a - 1 = \cdot \rightarrow a^{\gamma} - \gamma a - \mu = \cdot \rightarrow (a - \mu)(a + 1) = \cdot \rightarrow a = \frac{\mu}{\mu} = 1$ یا

$a = \frac{-1}{\mu}$ یا غ

$x^{\gamma} - (\varepsilon a + \varepsilon) x + (\mu a^{\gamma} + \varsigma a + \mu) = y$

$\Delta > \cdot \rightarrow \lambda\varsigma a^{\gamma} + \lambda\varsigma + \mu\gamma a - \lambda\gamma a^{\gamma} - \gamma\varepsilon a - \lambda\gamma > \cdot \rightarrow \varepsilon a^{\gamma} + \lambda a + \varepsilon > \cdot$

$x^{\gamma} - \lambda x + \lambda\gamma = y \rightarrow (x - \varsigma)(x - \gamma) = \cdot$

$x^{\gamma} - \frac{\lambda}{\mu} x + \frac{\varepsilon}{\mu} = \cdot \rightarrow \mu x^{\gamma} - \lambda x + \varepsilon = \cdot \rightarrow x^{\gamma} - \lambda x + \lambda\gamma = \cdot \rightarrow (x - \varsigma)(x - \gamma) = \cdot$

$\frac{+\varsigma}{\mu} = +\gamma$ $\quad$ $+\frac{\gamma}{\mu}$

$x^{\gamma} - \lambda x + \lambda\gamma = y \rightarrow \boxed{x = \varsigma}$ $\quad$ $x = \gamma$

$\boxed{x \in \gamma, \frac{\gamma}{\mu}, \varsigma}$