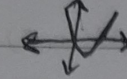
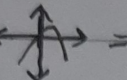


الف)  $\min$   $\Rightarrow$    $\Rightarrow$  سوم (۱)  
 ب)  $\max$   $\Rightarrow$    $\Rightarrow$  دوم

الف)  $\min$   $\Rightarrow$  ۴، ۲، ۱ (۲)  
 ب)  $\max$   $\Rightarrow$  ۴، ۲، ۱

الف)  $\frac{S}{\frac{\sqrt{\Delta}}{|a|}} = \frac{1}{\sqrt{13}} = \frac{\sqrt{13}}{13}$   $S=1$   $P=-3$  (۳)

ب)  $\alpha^2 + \beta^2 = S - 2P = 1 + 6 = 7$  ج)  $\alpha^3 + \beta^3 = S^3 - 3SP = 1 + 9 = 10$   
 د)  $\alpha^3 - \beta^3 = (\alpha - \beta)(\alpha^2 + \beta^2 + \alpha\beta) = \sqrt{13} (7 + (-3)) = 4\sqrt{13}$

$x^2 - ax + a \rightarrow \Delta < 0 \rightarrow a^2 - 4a < 0 \Rightarrow a(a-4) < 0$   $\frac{0}{+} - \frac{4}{+} +$   $\Rightarrow (0, 4)$  ① (۴)  
 $x^2 - ax + a \rightarrow (x-2)^2 = x^2 - 4x + 4 \rightarrow a = 4$  ② I, II  $\Rightarrow (0, 4]$

$\alpha + \beta = 4 \rightarrow \beta = 4 - \alpha \Rightarrow 2\alpha^2 + \beta^2 - 4\alpha = 7 \Rightarrow 2\alpha^2 + (4-\alpha)^2 - 4\alpha = 7 \rightarrow 2\alpha^2 - 12\alpha + 9 = 0$  (۵)  
 $\alpha^2 - 6\alpha + 9 = 0 \rightarrow \alpha = 3, \beta = 1$   $\frac{-9}{4} = -\frac{9}{4}$

$\frac{v - ra + ra + r}{r} = d \rightarrow (d, r)$   $v - 2a > 0 \rightarrow a < 3/2$   $ra + r > 0 \rightarrow a > -1/2$  (۶)  
 $a - r > 0 \rightarrow a > r$   $\Rightarrow a = 3$   $A = (9, 1)$   $\Rightarrow y = p(x-d)^2 + r$   
 $1 = p(9-d)^2 + r \Rightarrow 1 = p + r = 1 \rightarrow p = -\frac{1}{4}$   $y = p(0-d)^2 + r = -\frac{1}{4}$  |y| = 1 =  $|\frac{-1}{4}| = \frac{1}{4}$

$|\alpha - \beta| = \frac{\sqrt{\Delta}}{|a|}$   $ax^2 - ax - b \rightarrow x^2 - x - \frac{b}{a} = 0$   $x^2 - x + c = 0$   $p' - p = -c$   $r\beta^2 + \alpha^2 - \beta = \frac{14}{v_0}$  (۷)  
 $S \cdot r p - c = 1 - 3c = \frac{14}{v_0} \rightarrow c = \frac{1}{v_0}$   $\frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{\frac{b}{a}}}{1} = \frac{r}{\sqrt{\Delta}} = \frac{r\sqrt{a}}{a}$

$y = a(x-h)^2 + k$   $\Rightarrow a(x+r)^2 - \frac{1}{v}$   $ra - \frac{1}{v} = \frac{r}{v} \rightarrow a = \frac{1}{v}$   $y = \frac{1}{v}(x+r)^2 - \frac{1}{v}$  (۸)  
 $\frac{1}{v} \times 9 - \frac{1}{v} = 3$

Subject:

Year:

Month:

Day:

$$S = -4 \quad p = a \quad r\alpha^r + r\beta^r = \frac{a}{r}(\alpha^r + \beta^r) + \frac{1}{r}(\alpha^r - \beta^r) \quad \frac{a}{r}(\alpha^r - \beta^r) + \frac{1}{r}(\alpha - \beta)(\alpha + \beta) \quad (9)$$

$$9a - a + r\sqrt{9-a} = 12\sqrt{r} + 12a \rightarrow a = 1$$

$$\sqrt{\frac{1}{a_1}} + \sqrt{\frac{1}{a_2}} = d \rightarrow \frac{1}{a_1} + \frac{1}{a_2} + r\sqrt{\frac{1}{a_1 a_2}} = \frac{S}{p} + r\sqrt{\frac{1}{p}} \quad \frac{m+1^r}{1} + r\sqrt{m} = m+1^r + r\sqrt{m} \quad (1)$$

$m=1 \quad \frac{r}{-1} = \sqrt{r}$