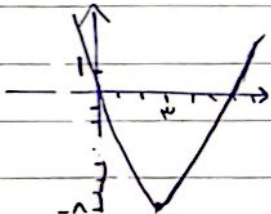


الف)  $y = 2m^2 - 4m + 1$      $m = \frac{-b}{2a} = \frac{2}{4} = \frac{1}{2}$      $y = \frac{-\Delta}{4a} = \frac{-1}{4} = -\frac{1}{4}$     (1)  
 $\Delta = 16 - 4 \times 2 \times 1 = 8$      $\text{Min} = \begin{vmatrix} 1 \\ -1 \end{vmatrix}$      $a > 0 \rightarrow \text{Min}$

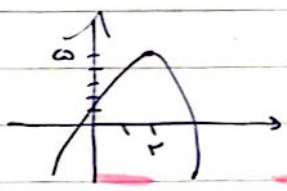
ب)  $y = -2m^2 + 4m - 5$      $m = \frac{-b}{2a} \rightarrow \frac{-4}{2(-2)} = \frac{2}{-2} = -1$      $y = \frac{-\Delta}{4a} = \frac{-31}{-4} = \frac{31}{4}$   
 $\Delta = 16 - 4(-2)(-5) = -31$      $\text{Max} = \begin{vmatrix} \frac{31}{4} \\ -\frac{31}{4} \end{vmatrix}$      $a < 0 \rightarrow \text{Max}$

ج)  $y = m^2 - 6m + 1$      $m = \frac{-b}{2a} = \frac{-(-6)}{2} = 3$      $y = \frac{-\Delta}{4a} = \frac{-32}{4} = -8$     (2)  
 $\Delta = 36 - 4 = 32$      $a > 0 \rightarrow \text{Min}$



$\text{Min} = \begin{vmatrix} 3 \\ -8 \end{vmatrix}$

د)  $y = -m^2 + 4m + 1$      $m = \frac{-b}{2a} \rightarrow \frac{-4}{-2} = 2$      $y = \frac{-\Delta}{4a} = \frac{-20}{-4} = 5$   
 $\Delta = 16 - 4(1)(1) = 20$      $a < 0 \rightarrow \text{Max} = \begin{vmatrix} 2 \\ 5 \end{vmatrix}$



$6m^2 + km^2 - 9m - 2 = 0$      $\alpha + \beta = 1$  ,  $\alpha\beta = -2$      $k = ?$     (3)  
 $\alpha^2 + \beta^2 = 5 - 2sp$      $\alpha^2 + \beta^2 = 5 - 2p$   
 $11^2 - 2(-2)(1) = v$      $11^2 - 2(2) = \omega$   
 $2\Lambda + \omega k - 13 = 0$      $\omega k = -10$      $k = -2$

$m^2 - 3m + m = 0$      $\alpha\beta = m$   
 $\alpha + \beta = 3m$   
 $2m^2 - mm - m = 0$   
 $2m^2 - m - 1 = 0$      $\frac{c}{a} = \frac{-1}{2}$

$(\sqrt{\alpha} - \sqrt{\beta} = 1)^2$     (4)  
 $\alpha + \beta - 2\sqrt{\alpha\beta} = 1$   
 $3m - 2\sqrt{m} - 1 = 0$      $\sqrt{m} = t$   
 $3t^2 - 2t - 1 = 0$      $\frac{2 \pm \sqrt{16}}{6} \rightarrow 1 \checkmark$   
 $\rightarrow \frac{-1}{2} \times$   
 $\sqrt{m} = 1 \rightarrow m = 1$

B = 1, k = -2

من ارتفاع مبدأ  $\rightarrow$   $\frac{3}{r}$   
 فاقلة در شیب  $\rightarrow$   $\frac{1}{r} \times m \times \frac{m-r}{r} = \frac{3}{r}$

$\frac{\sqrt{\Delta}}{|a|} \rightarrow \sqrt{(m+r)^2 - 4m} \rightarrow \sqrt{m^2 - 4m + r^2} = (m-r)r$  (a)

①  $\frac{1}{r} \times m \times \frac{m-r}{r} = \frac{3}{r} \rightarrow \frac{m^2 - 2m}{r} = \frac{3}{r}$

$\frac{|m-r|}{r} \rightarrow \begin{cases} \frac{m-r}{r} & \text{①} \\ \frac{r-m}{r} & \text{②} \end{cases}$

$m^2 - 2m = 3 \rightarrow m^2 - 2m - 3 = 0 \rightarrow (m-3)(m+1) = 0 \rightarrow \begin{cases} +3 \\ -1 \end{cases}$

②  $\frac{1}{r} \times m \times \frac{r-m}{r} = \frac{3}{r} \rightarrow \frac{rm - m^2}{r} = \frac{3}{r} \rightarrow rm - m^2 = 3 \rightarrow rm - m^2 - 3 = 0 \Delta < 0 \times$

$y = ax^r - mx + 1 \rightarrow \begin{cases} \frac{-b}{ra} = \frac{3}{r} \\ \frac{-b}{ra} = \frac{-1}{r} \end{cases}$

$y = ax^r + mx + a \quad \frac{-\Delta}{4a} = \frac{v}{\wedge} \quad \frac{ra^2 - a}{4a} = \frac{v}{\wedge} \quad \frac{r\wedge a = 3ra^r - vr}{4} \quad (6)$

$3ra^r - r\wedge a - vr = 0 \rightarrow r(\wedge a^r - va - \wedge) = 0 \quad \frac{v \pm \sqrt{9r\wedge}}{4} \rightarrow \begin{cases} \frac{3r}{4} = 3 \checkmark \\ \frac{-\wedge}{4} \times \end{cases}$   
 یک مقدار دیگر دارد.

$m^2 - (a+1)m + a = 0 \quad \frac{\sqrt{\Delta}}{|a|} = r \rightarrow \frac{\sqrt{(a-1)^2}}{1} \quad |a-1| = r \rightarrow \begin{cases} a=3 \checkmark \\ a=-1 \times \end{cases}$

$m^2 - 4m + 3 \rightarrow (m-1)(m-3)$

$m^2 - 10m + b = 0 \quad \frac{\sqrt{\Delta}}{|a|} = r \quad \sqrt{100 - 4b} = r \quad m^2 - (3a+1)m + b = 0 \xrightarrow{a=3} \begin{cases} 100 - 4b = 4 \rightarrow b = 24 \end{cases}$

$\frac{-a}{4} + \frac{4a}{4} + \frac{3r}{4} = \frac{3a+3r}{4} = \frac{-(b+1)}{4} \rightarrow 3a+3b = -b-1 \quad (7)$

$\frac{b}{4} - \frac{b}{4} - 1 = -1 \quad \frac{\wedge+a}{r} \rightarrow a = -1r \quad \begin{cases} -3r+3b = -b-1 \rightarrow b = -1 \\ b-a = -1+3 = 2 \end{cases}$

$\alpha\beta = \frac{\beta}{ra} \quad \alpha + \beta = \frac{-r}{ra} \quad \begin{cases} \alpha = \frac{1}{a} \rightarrow \beta = \frac{-r}{a} - \frac{1}{a} = -1 \quad \beta < \alpha \quad \times \text{درسته} \\ \alpha = \frac{-1}{a} \rightarrow \beta = \frac{r}{a} + \frac{1}{a} = 1 \quad \beta > \alpha \quad \checkmark \end{cases} \quad (9)$

$ra\alpha^r\beta = \beta \quad \alpha^r = \frac{1}{ra} \quad \alpha = \pm \frac{1}{a} \quad \alpha = \frac{-1}{a}, \beta = 1$

$-a\left(\frac{r}{a}\right)^r + r\left(\frac{r}{a}\right) + 1 = \frac{9}{a} \quad \frac{-b}{ra} = \frac{r}{a} \xrightarrow{r} y = -\omega m^r + \varepsilon m + 1$

$y > 0, m > 0 \Rightarrow$  نصف اول



$$z^r - \underbrace{(a^r + b^r - r)}_S w + \underbrace{a + b}_S - 1 = 0 \quad \text{P=5-1} \quad (1)$$

$P = S - 1$

$$S = S^r - rP - 1 \xrightarrow{P=S-1} S^r - rS - 1 = 0 \quad \frac{-b \pm \sqrt{\Delta}}{r} \rightarrow \frac{r \pm \sqrt{r^2 - 4a}}{r} \rightarrow \omega \vee -\omega$$

