

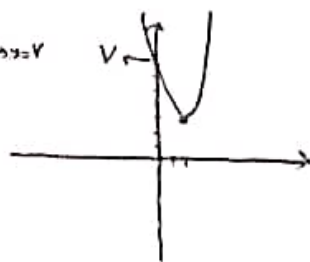
کلاس یازدهم A

پایه هفتم

نام و نام خانوادگی: علی رابنی

الف) $y = x^2 - 2x + 7$

$x=0 \rightarrow y=7$



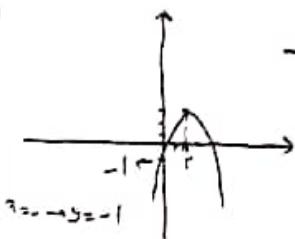
$x_{min} = -\frac{b}{2a} = \frac{2}{2} = 1$

$y_{min} = 1 - 2 + 7 = 6$

ب) $y = -x^2 + 2x - 1$

$x_{max} = -\frac{b}{2a} = \frac{2}{-2} = -1$

$y_{max} = -(-1)^2 + 2(-1) - 1 = -4$



$y = x^2 + (m+1)x + \frac{1}{2}m + 2 = 0$

الف) $\Delta > 0 \rightarrow (m+1)^2 - 4(\frac{1}{2}m + 2) = m^2 + 2m + 1 - 2m - 4 = m^2 - 3 > 0$

ب) $\Delta = 0 \Rightarrow m^2 - 3 = 0 \Rightarrow m = -\sqrt{3} \text{ or } \sqrt{3}$

ج) $\Delta < 0 \rightarrow m^2 - 3 < 0 \Rightarrow m \in (-\sqrt{3}, \sqrt{3})$

د) $\Delta \geq 0 \rightarrow m^2 - 3 \geq 0 \Rightarrow (-\infty, -\sqrt{3}] \cup [\sqrt{3}, +\infty)$

$y = (m-2)x^2 - 2(m+1)x + 1$

الف) $P > 0 \rightarrow \frac{1}{m-2} > 0 \rightarrow m > 2$

$S < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow -1 < m < 2$

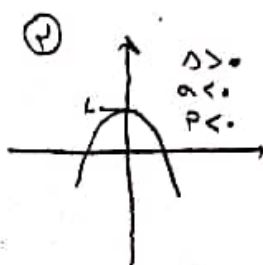
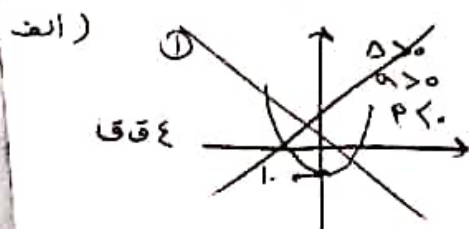
ب) $S < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow -1 < m < 2$
 $\Rightarrow P < 0 \rightarrow \frac{1}{m-2} < 0 \rightarrow m < 2$

$y = (m-2)x^2 - 2(m+1)x + 1 \rightarrow P \neq 0$

② $P < 0 \rightarrow \frac{1}{m-2} < 0$

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

$a < 0 \Rightarrow (-\infty, 2)$



ب) $\frac{b}{2a} = -1 \Rightarrow \frac{2m+2}{m-2} = -1$

$2m+2 = -m+4$

$3m = 2$

$m = \frac{2}{3}$

$$\frac{r_2^2}{2} - (r \sin \alpha) z + \frac{r^2}{4} = 0 \Rightarrow \{z^2 - (1 \pm \sin \alpha) z + \frac{1}{4} = 0 \Rightarrow \{z^2 - \frac{1}{2} = 0 \quad + \frac{1}{2} \quad - \Delta$$

$$\Delta \geq 0 \Rightarrow 1 \pm \sin \alpha - 1 \geq 0 \Rightarrow 1 \pm (\sin \alpha - 1) \geq 0 \Rightarrow \begin{cases} \sin \alpha = 1 \\ \sin \alpha = -1 \end{cases} \Rightarrow z = \pm \frac{1}{2}$$

$$(z-1)(z+\frac{1}{2})$$

$$-1 \pm \cos \alpha \geq 0$$

$$\cos \alpha \leq 0 \Rightarrow \cos \alpha = 0$$

$$y = \frac{(z^2 - z - 1)(z^2 - z - \Delta)}{1 - z^2} \xrightarrow{z=0} (z+1)(z-\frac{\Delta}{2}) \quad -4$$

$$y = \frac{(z-1)(z+\frac{1}{2})(z+1)(z-\frac{\Delta}{2})}{(1-z^2)(1+z)} = -\left(z+\frac{1}{2}\right)\left(z-\frac{\Delta}{2}\right) = \left(z^2 - \frac{\Delta}{2}z - \frac{1}{4}z - \frac{\Delta}{9}\right) \Rightarrow$$

$$y z^2 - \frac{\Delta}{2} z + \frac{1}{4} z - \frac{\Delta}{9} = -\left(\frac{\Delta}{2} z^2 - \frac{\Delta}{2} z - \frac{\Delta}{9}\right) = -\frac{\Delta}{2} z^2 + \frac{\Delta}{2} z + \frac{\Delta}{9} \Rightarrow \max \left\{ \begin{aligned} \frac{-b}{2a} &= \frac{-\frac{\Delta}{2}}{-\frac{\Delta}{2}} = 1 \\ \frac{-\Delta}{2a} &= \frac{-\frac{\Delta}{2}}{-\frac{\Delta}{2}} = 1 \end{aligned} \right. \Rightarrow \max y = \frac{4 \Delta^2}{9}$$

$$m z^2 - (m+r)z - r = 0 \quad S = \frac{m+r}{m} \quad P = -\frac{r}{m} \quad a, b \text{ (2)} \quad -V$$

$$S - V = \partial P \Rightarrow r z^2 - 4z - r = 0 \quad \alpha^2 - \beta^2 = S^2 - P^2 = \frac{9}{4} - 1 = \frac{5}{4}$$

$$\frac{r_{m+4}}{m} - \frac{V_m}{m} = -\frac{1}{m} \Rightarrow -\frac{r_{m+4}}{m} = -\frac{1}{m} \Rightarrow \begin{cases} -r_{m+4} = -1 \\ -r_m = -1 \end{cases} \Rightarrow \boxed{m=4} \quad S = -\frac{r}{r} = \frac{r}{r} \Rightarrow P = -\frac{1}{r}$$

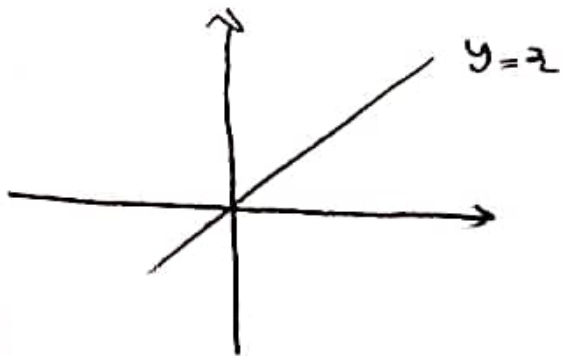
$$z^2 - \Delta z + r = 0 \quad \frac{r \alpha + \beta^0}{\Delta \beta^r} = \frac{\alpha^r \beta^0 \alpha + \beta^0}{\Delta \beta^r} = \frac{\alpha^r \beta^r + \beta^0}{\Delta \beta^r} \quad (19) \quad -A$$

$$P = r \Rightarrow P^r = r \Rightarrow (\alpha \beta)^r \Rightarrow \frac{S^r - P^r}{\Delta} = \frac{1 \times \Delta - r^0}{\Delta} = \frac{90}{\Delta} = 19 \quad \frac{\alpha^r (\alpha^r + \beta^r)}{\Delta \beta^r} = \frac{\alpha^r + \beta^r}{\Delta} = \frac{S^r - P^r}{\Delta}$$

$$\begin{aligned} y_1 &= a z^2 + b z + c & y_2 &= z + 10 \\ c &= 8 & \Rightarrow \begin{cases} 11z & \Rightarrow 1z \end{cases} & \begin{cases} \begin{cases} \alpha a + \beta b + \gamma = 1 \\ 9\alpha - 5\beta + \gamma = 8 \end{cases} & \begin{cases} \alpha + \gamma = 10 \\ 10\alpha = 10 \end{cases} \end{cases} \\ y_1 &= z^2 + z + 8 & & \begin{cases} 9\alpha - 5\beta = 0 \\ 9\alpha = 5\beta \end{cases} \end{aligned}$$

$$\text{مستقيم} \cdot \frac{-b}{r_m} = \frac{-\frac{r}{r}}{r}$$

$$y = x^2 + (m+1)x + m + 4$$



$$\Rightarrow x^2 + (m+1)x + m + 4 = x$$

$$x^2 + mx + m + 4 = 0 \quad \xRightarrow{m} \quad \Delta = m^2 - 4m - 16 = 0$$

$$(m-12)(m+13)$$

$$\Rightarrow m = \boxed{12, -13}$$

- 1.