

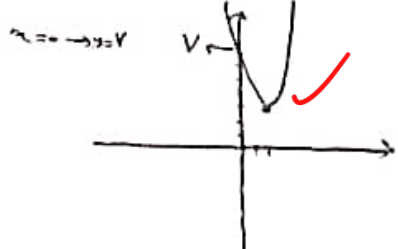
اسم: یازدهم A

19.1.75

پایه: دوازدهم ریاضی

نام و نام خانوادگی: علی رابانی

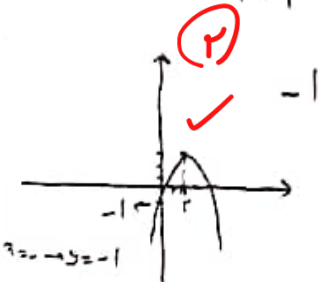
الف)  $y = x^2 - 2x + 7$



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

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

ب)  $y = -x^2 + 2x - 1$



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

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

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

۲ -

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

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

$(m-2)(m+2) \rightarrow (-\infty, -2) \cup (2, +\infty)$

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

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

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

۳ -

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

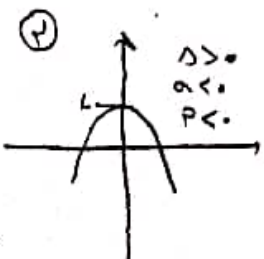
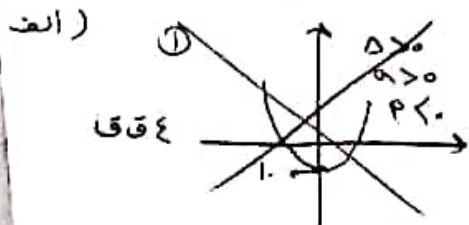
$S < 0 \Rightarrow \frac{2m+2}{m-2} < 0 \Rightarrow -1 < m < 2$

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

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

۲)  $P < 0 \Rightarrow \frac{1}{m-2} < 0 \Rightarrow m < 2$

۴ -



$\frac{2}{-2} < 0 \Rightarrow (-\infty, 2)$

ب)  $\frac{2}{2a} = -2 \Rightarrow \frac{2m+2}{2m-2} = -2 \Rightarrow 2m+2 = -4m+4 \Rightarrow 6m = 2 \Rightarrow m = \frac{1}{3}$

$$\frac{r_2^2}{2} - (r \sin \alpha) z + \frac{r^2}{4} = 0 \Rightarrow \{z^2 - (r \sin \alpha) z + \frac{r^2}{4} = 0 \Rightarrow \{z^2 - 9 = 0 \quad \checkmark \quad \left[ \frac{r}{2} \right] \quad -\Delta$$

$$\Delta \geq 0 \Rightarrow |r \sin \alpha - 1| \geq 0 \quad |r \sin \alpha - 1| \geq 0 \quad r^2 = 9 \quad z = \pm \frac{r}{2}$$

$$-1 \leq \sin \alpha \leq 1 \Rightarrow \cos \alpha \leq 0 \Rightarrow \cos \alpha = 0$$

$$y = \frac{(r_2^2 - r_2 - 1)(r_2^2 - r_2 - \Delta)}{1 - r_2^2} \xrightarrow{r_2 = -1} (z+1)(z - \frac{\Delta}{2}) \quad -4$$

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

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

$$\max y = \frac{r_2^2}{r_2^2} \quad \checkmark$$

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

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

$$\frac{r_{m+4}}{m} - \frac{V_m}{m} = -\frac{1}{m} \Rightarrow -\frac{r_{m+4}}{m} = -\frac{1}{m} \Rightarrow r_{m+4} = 1$$

$$S = -\frac{r}{r} = \frac{r}{r} \Rightarrow P = -\frac{1}{r}$$

$$z^2 - \Delta z + r = 0 \quad \frac{r^2 + B^2}{\Delta B^2} = \frac{r^2 B^2 + B^2}{\Delta B^2} = \frac{r^2 B^2 + B^2}{\Delta B^2} \quad (19) -1$$

$$S = \Delta \quad P = r \Rightarrow P^2 = r^2 \Rightarrow (rB)^2$$

$$\Rightarrow \frac{S^2 - P^2}{\Delta} = \frac{1 \times \Delta - r^2}{\Delta} = \frac{90}{\Delta} = 19 \quad \checkmark \quad \frac{r^2 (r^2 + B^2)}{\Delta B^2} = \frac{r^2 + B^2}{\Delta} = \frac{S^2 - P^2}{\Delta}$$

$$y_1 = a z^2 + b z + c \quad y_2 = r z + 10$$

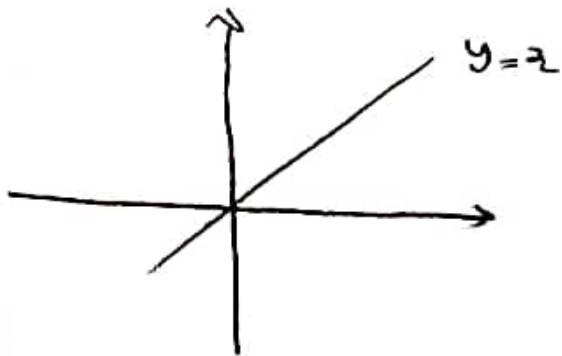
$$c = 8 \quad \Rightarrow \left| \begin{array}{cc} r & 10 \\ 1 & 8 \end{array} \right| \Rightarrow \left| \begin{array}{cc} r & 10 \\ 1 & 8 \end{array} \right|$$

$$y_1 = r^2 + r z + 8$$

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

$$\begin{cases} \{a + r b + 8 = 18 & \{a + 4a = 10 \\ 9a - r b + 8 = 8 & 10a = 10 \\ 9a - r b = 0 & \{a = 1 \Rightarrow b = r \} \\ 9a = r b & 9a = b \quad \{a = b \} \end{cases} \quad -9$$

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



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

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

$$(m-12)(m+4)$$

$$\Rightarrow m = \boxed{12 \text{ or } -4}$$

← ناحیه سوم

1, 1.5