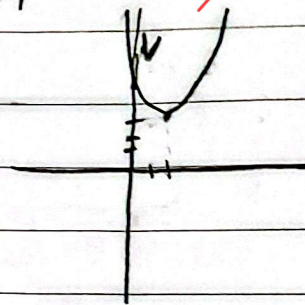


الف) $y = x^2 - 4x + 7$

$$\Delta = \frac{b^2}{4a} = \frac{16}{4} = 4$$

$$4 - 1 + 7 = 3$$

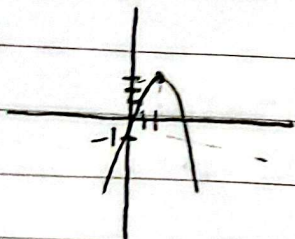


①

ب) $y = -x^2 + 4x - 1$

$$\Delta = \frac{b^2}{4a} = \frac{16}{-4} = -4$$

$$-4 + 1 - 1 = -4$$



②

الف) $\Delta > 0 \rightarrow (m+1)^2 - 4(1-m+2)(1) > 0$

$$m^2 - 2m - 1 < 0 \quad \begin{array}{c} -2 \quad 1 \\ + \quad | \quad - \quad | \quad + \\ 0 \quad 0 \quad 0 \end{array} \quad m = (-\infty, -3) \cup (1, +\infty)$$

ب) $\Delta = 0$

$$m = -3 \text{ و } 1$$

$$m^2 - 2m - 1 = 0$$

③

ج) $\Delta < 0 \quad m^2 - 2m - 1 < 0$

$$\begin{array}{c} -2 \quad 1 \\ + \quad | \quad - \quad | \quad + \\ 0 \quad 0 \quad 0 \end{array} \quad m = (-3, 1)$$

د) $\Delta > 0 \quad m^2 - 2m - 1 > 0 \quad (-\infty, -3] \cup [1, +\infty)$

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

④

الف) $\begin{cases} \Delta > 0 \\ P > 0 \\ S < 0 \end{cases}$

$$\frac{1}{m-1} > 0 \quad m-1 > 0 \quad m > 1$$

$$\frac{2(m+1)}{m-1} < 0 \quad \begin{array}{c} -1 \quad 2 \\ + \quad | \quad - \quad | \quad + \\ 0 \quad 0 \quad 0 \end{array} \quad (-1, 2)$$

⑤

م از این همه مقدار m این شرط برقرار نیست

ب) $\begin{cases} \Delta > 0 \\ P < 0 \\ S < 0 \end{cases}$

$$\frac{1}{m-1} < 0 \quad m-1 < 0 \quad m < 1 \quad \text{I}$$

$$\frac{2(m+1)}{m-1} < 0 \quad \begin{array}{c} -1 \quad 2 \\ + \quad | \quad - \quad | \quad + \\ 0 \quad 0 \quad 0 \end{array} \quad (-1, 2) \quad \text{II}$$

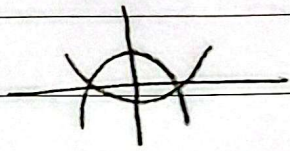
$$\text{I} \cap \text{II} \rightarrow (-1, 1)$$

$$\Delta = 4(m+1)^2 - 4(m-1)(1) > 0$$

$$m^2 + 2m - 1 > 0 \quad m^2 - 1 > 0$$

$$\Delta < 0 \quad \text{هیچ مقدار m}$$

$$\text{ف) } \begin{cases} \Delta > 0 \\ p < 0 \end{cases}$$



$$\frac{1}{m-1} < 0 \quad m-1 < 0 \quad \underline{m < 1}$$

$$\rightarrow x = \frac{-b}{r_a} = -r$$

$$\frac{x(m+1)}{x(m-1)} = -r \quad m+1 = -rm \quad rm = r \quad \underline{m=1}$$

$$\frac{r_a r}{r} - (r \sin \alpha) x + \frac{r}{r} = 0 \quad \xrightarrow{x?} \quad r_a r - (r \sin \alpha) x + 1 = 0$$

$$\Delta > 0 \rightarrow r_a^2 x^2 \sin^2 \alpha - 2(r \sin \alpha)(r) > 0 \quad \sin^2 \alpha > 1 \rightarrow \sin \alpha = \pm 1$$

$$\sin \alpha = 1 \rightarrow r_a r - r_a + 1 = 0 \rightarrow x = \frac{r}{r} \quad \checkmark$$

$$\sin \alpha = -1 \rightarrow r_a r + r_a + 1 = 0 \rightarrow x = \frac{-r}{r} \quad \times$$

$$y = \frac{(r_a r - r_a - 1)(r_a r - r_a - a)}{1 - x^2}$$

$$\frac{(x-1)(r_a x+1)(x+1)(r_a x-a)}{(1-x)(x+1)} = -(r_a+1)(r_a-a)$$

$$= -r_a r + 1^r x + a$$

$$\frac{-1}{r_a} = \frac{-1^r}{-1r} = \frac{1^r}{1r} \quad -4 \times \frac{1^r}{1r \times 1r} + \frac{1^r \times 1^r}{1r} + a$$

$$\frac{-1}{r_a} + \frac{1}{1r} + a = \frac{r \wedge 1}{r f}$$

$$r_s = \Delta p + v$$

$$\frac{r(m+r)}{m} = a \left(\frac{-r}{m} \right) + v = \frac{-10 + v m}{m}$$

$$r_m + 9 = -10 + v m \quad (m=19 \Rightarrow m \neq)$$

$$s^r - r p = \left(\frac{m+r}{m} \right)^r - r \left(\frac{-r}{m} \right) = \left(\frac{9}{r} \right)^r - r \left(\frac{-r}{r} \right) = \frac{1}{r} + \frac{r}{r} = \frac{1^r}{r}$$

Subject Date

(1)

$$\frac{r\alpha + B^a}{a B r} = \frac{r B = r}{a B r} = \frac{r B + B^a}{a B r}$$

(5)

$$\frac{B^r (r^r + B^r)}{a B r} = \frac{5^r - r p s}{a} = \frac{12a - r(a) r}{a}$$

$$\frac{12a - r^2}{a} = \frac{12a}{a} = 12$$

(9)

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

$$r(r) + 10 = r^2 a + r b + c$$

$$r a + r b = 10 \rightarrow r a + b = a$$

$$r(-r) + 10 = -r^2 a - r b + c$$

$$-r a - r b = 0 \rightarrow r a = b$$

$$\frac{-b}{r a} = \frac{-r}{r}$$

$$\begin{cases} r a + b = a \\ r a - b = 0 \\ \hline 2 r a = a \rightarrow a = 1, b = r \end{cases}$$

(10)

$$r^2 + (m+1)r + m + 9 = 0$$

$$r^2 + m r + m + 9 = 0$$

$$m^2 - r(r) (m+9) = 0$$

$$m^2 - \Lambda m + r \Lambda = 0$$

$$(m-12)(m+9) = 0$$

$$\Rightarrow m = 12, -9 \rightarrow \text{مساوی بر نسیاز با مایل} \Rightarrow \boxed{m = 12} \checkmark$$