

Subject

تکلیف ۱۲

Date

آینه آفرینی از دفتر B

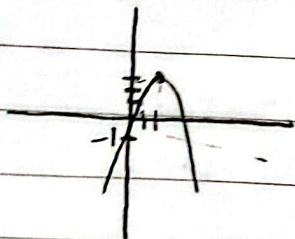


①

$$y = x^2 - 2x + 3 \quad \text{ان)$$

$$\begin{cases} \frac{-b}{2a} = \frac{2}{2} = 1 \\ f(1) = 1 - 2 + 3 = 2 \end{cases}$$

$$y = -x^2 + 2x - 1 \quad \text{ب)$$



$$\begin{cases} \frac{-b}{2a} = \frac{-2}{-2} = 1 \\ f(1) = -1 + 2 - 1 = 0 \end{cases}$$

②

$$\Delta > 0 \rightarrow (m+1)^2 - 4\left(\frac{1}{m-2}\right)(2) > 0$$

$$m^2 - 2m - 1 > 0$$

$$\begin{array}{c|c} -2 & 1 \\ \hline + & - \\ \hline 0 & 0 \end{array}$$

$$m = (-\infty, -3) \cup (1, +\infty)$$

$$\Delta = 0$$

$$m = -3, 1$$

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

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

$$\begin{array}{c|c} -2 & 1 \\ \hline + & - \\ \hline 0 & 0 \end{array}$$

$$m = (-3, 1)$$

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

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

③

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

$$\frac{1}{m-2} > 0 \quad m-2 > 0 \quad m > 2$$

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

از این همه مقدار m این شرط برقرار نیست

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

$$\frac{1}{m-2} < 0 \quad m-2 < 0 \quad m < 2 \quad \text{I}$$

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

$$\text{I} \cap \text{II} \rightarrow (-1, 2)$$

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

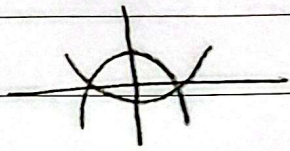
$$m^2 + 2m - 1 > 0 \quad m > 2$$

$$m^2 - 2m + 2 > 0$$

$$\Delta < 0 \quad \text{هیچ برقرار نیست}$$

clips

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



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

⑥

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

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

$$rm = r \quad \underline{m=1}$$

⑦

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

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

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

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

⑧

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

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

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

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

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

⑨

$$r_s = \Delta p + v$$

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

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

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

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(1)

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

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

$$\frac{12a - r^2}{a} = \frac{9a}{a} = 19$$

(9)

$$y_1 = ar^r + br + c \quad y_2 = r^2 + 10$$

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

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

$$r(-r) + 10 = 9a - rb + c$$

$$1a - rb = 0 \rightarrow ra = b$$

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

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

(10)

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

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

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

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

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

$$\Rightarrow m = 12, -9 \rightarrow \text{مساوی بر اساس تفاضل} \Rightarrow \boxed{m = 12} \checkmark$$