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A. در رسم یکنسبه

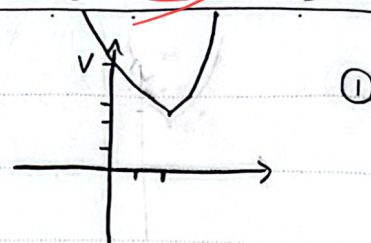
در بنای ریاضی

19/5

تاریخ

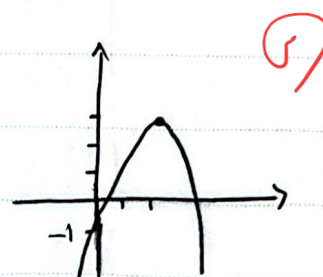
الف) $y = u^2 - \varepsilon u + v \Rightarrow \text{ext} \quad \left| \begin{array}{l} \frac{-b}{2a} = \frac{\varepsilon}{2} = 2 \\ \varepsilon - 1 + v = 3 \end{array} \right.$

$\Delta < 0 \Rightarrow$ رسم ندارد



ب) $y = -u^2 + \varepsilon u - 1 \Rightarrow \text{ext} \quad \left| \begin{array}{l} \frac{-b}{2a} = \frac{-\varepsilon}{-2} = 2 \\ -\varepsilon + 1 - 1 = 3 \end{array} \right.$

$\Delta > 0 \Rightarrow$ دو رسم دارد



$\Delta = 16 - 4 = 12 \Rightarrow \frac{-4 \pm 2\sqrt{3}}{-2}$

$\Rightarrow x = \frac{(-4 \pm 2\sqrt{3})}{-2} = 2 \pm \sqrt{3}$

الف) $\Delta > 0 \Rightarrow (m+1)^2 - (\varepsilon x (\frac{1}{4}m+2)x2) > 0 \Rightarrow m^2 + 1 + 2m - \varepsilon m - 16 > 0 \quad (2)$

$\Rightarrow m^2 - 2m - 15 > 0 \Rightarrow (m-5)(m+3) > 0 \Rightarrow \frac{-2}{+ \quad - \quad +} \Rightarrow m \in (-\infty, -3) \cup (5, +\infty)$

ب) $\Delta = 0 \Rightarrow m^2 - 2m - 15 = 0 \Rightarrow (m-5)(m+3) = 0 \Rightarrow \begin{cases} m=5 \\ m=-3 \end{cases}$

ج) $\Delta < 0 \Rightarrow m^2 - 2m - 15 < 0 \Rightarrow (m-5)(m+3) < 0 \Rightarrow \frac{-2}{+ \quad - \quad +} \Rightarrow m \in (-3, 5)$

د) $\Delta > 0 \Rightarrow (m-5)(m+3) > 0 \Rightarrow \frac{-2}{+ \quad - \quad +} \Rightarrow m \in (-\infty, -3] \cup [5, +\infty)$

الف) $\begin{cases} \Delta > 0 \Rightarrow m^2 + \varepsilon + 1m - \varepsilon m + 10 > 0 \Rightarrow m^2 - 22m + 11\varepsilon > 0 \Rightarrow \text{چون در بنای خرد هستن} \\ \frac{-b}{2a} < 0 \Rightarrow \frac{2m+2}{m-2} < 0 \Rightarrow \frac{-1}{+ \quad - \quad +} \Rightarrow (-1, 2) \\ \frac{c}{a} > 0 \Rightarrow \frac{10}{m-2} > 0 \Rightarrow \frac{+}{- \quad +} \Rightarrow (2, +\infty) \end{cases} \Rightarrow \emptyset$

مقادیر منفی است
سین هفتاد و یک

ب) $\begin{cases} \Delta < 0 \Rightarrow \text{هفتاد و دو} \\ \frac{c}{a} < 0 \Rightarrow \frac{10}{m-2} < 0 \Rightarrow \frac{+}{- \quad +} \Rightarrow (-\infty, 2) \\ \frac{-b}{2a} < 0 \Rightarrow \frac{2m+2}{m-2} < 0 \Rightarrow \frac{-1}{+ \quad - \quad +} \Rightarrow (-1, 2) \end{cases} \Rightarrow (-1, 2)$

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الف) $\max$ $\begin{cases} m-r < 0 \Rightarrow m < r \\ \Delta > 0 \Rightarrow \text{مميز له جذور} \Rightarrow (-\infty, r) \\ \frac{c}{a} < 0 \Rightarrow \frac{10}{m-r} < 0 \Rightarrow \frac{r}{-\frac{1}{r}+} \Rightarrow (-\infty, r) \end{cases}$ (K)

$\min$ $\begin{cases} m-r > 0 \Rightarrow m > r \\ \Delta > 0 \Rightarrow \text{مميز له جذور} \Rightarrow \emptyset \\ \frac{c}{a} < 0 \Rightarrow \frac{10}{m-r} < 0 \Rightarrow \frac{r}{-\frac{1}{r}+} \Rightarrow (-\infty, r) \end{cases}$ (5)

$\rightarrow x = -r \Rightarrow \frac{-b}{2a} = -r \Rightarrow \frac{r m + r}{r m - 1} = -r \Rightarrow r m + r = -r m + 1 \Rightarrow 4m = 4 \Rightarrow m = 1$

$\frac{r x^2}{r} - (r \sin \alpha) x + \frac{r}{r} = 0$ (A)

$r \sin^2 \alpha - r \left(\frac{r}{r} \right) \left(\frac{r}{r} \right) \geq 0 \Rightarrow \sin^2 \alpha \geq 1 \Rightarrow \sin^2 \alpha = 1$ (5)

$\Rightarrow \sin \alpha = \pm 1 \xrightarrow{+1} \frac{r}{r} x^2 - r x + \frac{r}{r} = 0 \Rightarrow r x^2 - r x + 1 = 0$

$\xrightarrow{-1} \frac{r}{r} x^2 + r x + \frac{r}{r} = 0 \Rightarrow x = -\frac{1}{1} \text{ أو } 1$

$\checkmark x = \frac{r}{r}$

$1 - x^2 = -(x^2 - 1)$ (5)

$\Rightarrow y = -\frac{(r x^2 - r x - 1)(r x^2 - r x - 1)}{x^2 - 1} \Rightarrow -\frac{r x^4 - 1 r x^3 - 11 x^2 + 1 r x + 1}{(x-1)(x+1)} \rightarrow x \neq \pm 1$ (5)

$\frac{r x^4 - 1 r x^3 - 11 x^2 + 1 r x + 1}{x^2 - 1} \left| \frac{x^2 - 1}{-r x^2 + 1 r x + 1} \right. \Rightarrow y = -r x^2 + 1 r x + 1 \Rightarrow x = \frac{-b}{2a} = \frac{-1 r}{-2 r}$

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

$y_{\max} = \frac{r \wedge 9}{4 r}$

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$$r(\alpha + \beta) = \omega(\alpha + \beta) + v \Rightarrow \frac{r(m+1)}{m} = \frac{-10}{m} + v \Rightarrow \frac{r(m+1)}{m} = v \quad (v)$$

$$\Rightarrow rm + 1r = vm \Rightarrow \varepsilon m + 1r = vm \Rightarrow m = r \quad (r)$$

$$p = \frac{c}{a} = \frac{-r}{m}$$

$$s = \frac{-b}{a} = \frac{m+r}{m}$$

$$rx^r - 5x - r = 0 \Rightarrow \alpha^r + \beta^r = s^r - rp$$

$$\Rightarrow \frac{9}{\varepsilon} + \frac{r}{\varepsilon} = \frac{1r}{\varepsilon}$$

$$\frac{r\alpha}{\omega\beta^r} + \frac{\beta^r}{\alpha} =$$

$$\alpha\beta = r$$

$$\alpha + \beta = \omega$$

$$\beta = \frac{r}{\alpha}$$

$$\frac{r\alpha}{\omega\beta^r} = \frac{\alpha^r}{\omega} \Rightarrow \frac{\alpha^r + \beta^r}{\omega} = \frac{s^r - rsp}{\omega} \Rightarrow \frac{1r\omega - r_0}{\omega} = [9]$$

$$y_1 = ax^r + bx + c \quad \Rightarrow \quad \begin{cases} y_r = rx^r + 10 = 1\varepsilon \\ y_1 = rx + 10 \end{cases} \Rightarrow 1\varepsilon = ra + rb + r \quad (r)$$

$$\Rightarrow \frac{10}{\omega} = r(ra+b) \Rightarrow ra+b = \omega(I) \quad (I), (II) \Rightarrow \begin{cases} ra+b = \omega \\ ra-b = 0 \\ \omega a = \omega \Rightarrow a=1, b=r \end{cases}$$

$$\left. \begin{aligned} y_1 &= 9a - rb + \varepsilon \\ y_r &= -5 + 10 = r \end{aligned} \right\} \Rightarrow 9a - rb = 0 \Rightarrow r(r a - b) = 0 \Rightarrow ra - b = (II)$$

$$\Rightarrow y_1 = x^r + rx + \varepsilon \Rightarrow x = \frac{b}{ra} = \frac{r}{r}$$

$$y = x \quad rx^r + (m+1)x + m + 4 = x \quad (6)$$

$$\Delta = 0 \Rightarrow rx^r + (m+1)x - 1x + m + 4 = 0$$

$$\Rightarrow m^r - 1m - \varepsilon 1 = 0 \Rightarrow (m+r)(m-1r) = 0 \Rightarrow m \begin{cases} 1r \\ -\varepsilon \end{cases} \quad \checkmark \quad \checkmark$$

$$\Rightarrow \begin{cases} \text{if } m = 1r \Rightarrow rx^r + 1rx + 11 = 0 \quad \checkmark \quad \Delta \geq 0 \\ \text{if } m = -\varepsilon \Rightarrow rx^r - rx + r = 0 \quad \times \quad \Delta < 0 \end{cases}$$

Elipon