

$$y = x^2 + bx + 3$$

مردم با رسم دقت

جوابی

(1)

$$\frac{-\Delta}{2a} = v \rightarrow \frac{-b^2 + 12}{-2} = v \rightarrow b^2 = 12 \rightarrow b = \pm 2\sqrt{3}$$

$$f(x) = x^2 + 2x + 3$$

(2)

$$\rightarrow x^2 + 2x + 3 = 0 \rightarrow x = -1 \pm \sqrt{1 - 3} = -1 \pm \sqrt{-2} \rightarrow b^2 - 4ac = 4 - 12 = -8 < 0$$

$\Delta < 0 \rightarrow$ این تابع هیچ ریشه ندارد

$$f(x) = (x - x^2)^2 - 2(x - x^2) - 1 = 0$$

$$\left\{ \begin{array}{l} x - x^2 = t \\ t^2 - 2t - 1 = 0 \end{array} \right. \rightarrow (t - 1)^2 = 2 \rightarrow t = 1 \pm \sqrt{2}$$

$$\left\{ \begin{array}{l} t = 1 + \sqrt{2} \rightarrow x - x^2 = 1 + \sqrt{2} \rightarrow x^2 - x + 1 + \sqrt{2} = 0 \\ t = 1 - \sqrt{2} \rightarrow x - x^2 = 1 - \sqrt{2} \rightarrow x^2 - x + 1 - \sqrt{2} = 0 \end{array} \right. \rightarrow x = \frac{1 \pm \sqrt{1 - 4(1 \pm \sqrt{2})}}{2}$$

$$x^2 - 14x + 45 = 0$$

(3)

$$x + y = 1$$

$$x = y + 1 \rightarrow y + y + 1 = 1 \rightarrow 2y = 0 \rightarrow y = 0 \rightarrow x = 1$$

$$p = \frac{m}{\Sigma} \Rightarrow 3x \leq \frac{m}{\Sigma} \Rightarrow m \leq 12 \rightarrow x^2 - 14x + 45 = 0 \rightarrow \Delta > 0 \checkmark$$

$$x^2 - 14x + 45 = 0 \quad x - y = 1 \rightarrow \frac{1}{p}x + \frac{1}{p}y + \frac{p}{1-x} - \frac{p}{1-y} = \Sigma$$

(4)

$$\rightarrow \frac{1}{p}(x+y) + \frac{p}{1-x} - \frac{p}{1-y} = 1 \rightarrow x - y = 1$$

$$x - y = \frac{\sqrt{\Delta}}{|a|} = \frac{\sqrt{196 - 4(45 - 1)}}{1} = 1 \rightarrow 14 - 12(m-1) \leq 196$$

$$m - 1 \leq 1 \rightarrow m \leq 2$$

$$x^2 - 14x + 45 = 0 \rightarrow \Delta > 0 \checkmark$$

$$-m\lambda^r + \varepsilon\lambda + m^r - r = 0$$

$$(1 + \varepsilon m^r - \lambda m) = 0$$

(2)

$$\Delta > 0 \rightarrow 1 + \varepsilon(-m)(m^r - r)$$

$$p_3 \mid \frac{m^r - r}{-m} \mid \rightarrow m^r + m - r = 0$$

$$(m + r)(m - 1) = 0$$

$$\begin{cases} m_3 \mid \rightarrow \Delta > 0 \checkmark \\ m = -r - \varepsilon \Delta > 0 \times \end{cases}$$

(4)

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

$$\alpha \beta^r = \varepsilon \rightarrow \frac{(\alpha/\beta)(\beta)}{r} \rightarrow \beta = \frac{r}{\alpha} \rightarrow m = \frac{q}{\varepsilon} + \frac{\varepsilon}{r} = \frac{qr}{1r}$$

$$\alpha = \frac{q}{\varepsilon}$$

$$2\lambda^r - \frac{qr}{1r}\lambda + m^r = 0 \rightarrow \Delta > 0 \checkmark$$

(5)

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

$$m = \alpha \beta = \lambda \beta^r$$

$$\alpha + \beta = r$$

$$\alpha = \beta$$

$$r\beta = \varepsilon \rightarrow \beta = 1, \alpha = r$$

$$2\lambda^r - \varepsilon\lambda + m^r = 0 \rightarrow \Delta > 0 \checkmark$$

(1)

$$2\lambda^r - v\lambda + m^r = 0$$

$$\alpha^r + \frac{1}{\alpha^r} = (\alpha + \frac{r}{\alpha})(\alpha^r - r + \frac{\varepsilon}{\alpha^r}) = m^r$$

$$\alpha^r - r + \frac{\varepsilon}{\alpha^r} = (\alpha + \frac{r}{\alpha})^r - r = \varepsilon q - r = m^r$$

$$\alpha + \frac{r}{\alpha} = \frac{\alpha^r + r}{\alpha} \rightarrow \frac{v\alpha - r + r}{\alpha} = v$$

$$h(t) = -1 \cdot t^r + \omega \cdot t$$

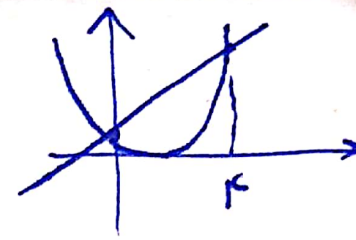
(9)

$$\begin{cases} \frac{-\omega}{-r} = \frac{\omega}{r} \rightarrow t \\ -1 \cdot (\frac{r\omega}{\varepsilon}) + \omega \cdot (\frac{\omega}{r}) = \frac{1r\omega}{r} \rightarrow h \end{cases}$$

$$\text{الف) } (n-1)^2 = 2n+1$$

$$\frac{0}{1}$$

$$n^2 - 2n + 1 = 2n + 1$$



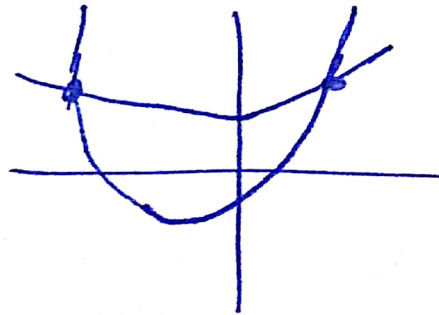
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$$n^2 - 2n + 1 = 2n + 1 \rightarrow n(n-2) = 0 \rightarrow n = 0, 2$$

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$$\text{ب) } \frac{n^2 + 2n}{n(n+2)} = 1 \Rightarrow \begin{cases} n+2, n^2+2n \rightarrow n^2+n-2=0 \rightarrow n = -2, 1 \\ n+2, -n^2-2n \rightarrow n^2+4n+2=0 \rightarrow n = -2 \pm \sqrt{2} \end{cases}$$

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