

نام و نام خانوادگی: شماره ثبت: پاسخنامه تشریحی تکلیف شماره ۱۳۰ کلاس: پایه: (۱)

$$y = (a-1)x^2 + x + 12$$

$$\frac{-b}{2a} = 2 \Rightarrow \frac{-1}{2(a-1)} = 2 \Rightarrow (a-1) = -\frac{1}{4}$$

$$\frac{-1}{4}x^2 + x + 12 = 0 \Rightarrow \begin{cases} x = 4 \leftarrow + \\ x = -2 \leftarrow \times \end{cases}$$

$$mx^2 - 5x + m = 0$$

$$a = m < 0 \Rightarrow \text{دو ریشه حقیقی و متمایز}$$

$$\Delta > 0 \Rightarrow 25 - 4m^2 > 0 \Rightarrow m^2 < \frac{25}{4} \Rightarrow \begin{cases} m < \frac{5}{2} \\ m > -\frac{5}{2} \end{cases} \quad (1)$$

$$\text{① } \begin{array}{c} \text{---} \circ \end{array} \quad \text{② } \begin{array}{c} \text{---} \circ \end{array} \quad \text{③ } \begin{array}{c} \text{---} \circ \end{array} \quad \text{④ } \begin{array}{c} \text{---} \circ \end{array} \quad \text{⑤ } \begin{array}{c} \text{---} \circ \end{array} \quad \text{⑥ } \begin{array}{c} \text{---} \circ \end{array} \quad \text{⑦ } \begin{array}{c} \text{---} \circ \end{array} \quad \text{⑧ } \begin{array}{c} \text{---} \circ \end{array} \quad \text{⑨ } \begin{array}{c} \text{---} \circ \end{array} \quad \text{⑩ } \begin{array}{c} \text{---} \circ \end{array}$$

$$x^2 - 5x + 12 = 0$$

$$x^2 - 2x + \frac{5}{4} = 0$$

$$S = \frac{12 - \sqrt{5}}{2} + \frac{12 + \sqrt{5}}{2} = \frac{24}{2} = 12$$

$$9x^2 - 14x + 5 = 0 \Rightarrow \text{دو ریشه حقیقی و متمایز}$$

$$P = \frac{(12 - \sqrt{5})}{2} \times \frac{(12 + \sqrt{5})}{2} = \frac{144 - 5}{4} = \frac{139}{4}$$

$$2x^2 - 14x + 12 + m = 0$$

$$\alpha < \beta \quad S = \frac{\alpha + \beta}{2} = 5$$

$$3\alpha^2 + 3\beta^2 = 12 \quad P = \frac{\alpha + \beta}{2}$$

$$2\alpha^2 + 2\beta^2 + \alpha^2 - 3\beta^2 = 12$$

$$2(5^2 - 2P) + (5)(\frac{\sqrt{5}}{2}) = 12$$

$$2(14 - 2 - m) + \frac{5\sqrt{48 - 14(2+m)}}{2} = 12$$

$$14 - 2 - m + \sqrt{48 - 14 - 14m} = 6$$

$$\sqrt{34 - 14m} = m - 14$$

$$34 - 14m = m^2 - 28m + 196$$

$$m^2 - 14m + 14 = 0$$

$$(m-7)^2 = 0 \Rightarrow m = 7$$

$$ax^2 + bx + c = 0$$

$$y = -x^2 + 5x + 5 = 0$$

$$ax^2 + bx + c = 0$$

$$x^2 - 5x - 5 = 0$$

$$(x-5)(x+1) = 0 \Rightarrow \begin{cases} x = 5 \\ x = -1 \end{cases}$$

$$5a + 2b + c = 9$$

$$2a + b = 2$$

$$\frac{-b}{2a} = 2 \Rightarrow -b = 4a$$

$$2a - 4a = 2 \Rightarrow \begin{cases} a = -1 \\ b = 2 \end{cases}$$

برای $a \in (-1, 0)$ مقدار $<$
 در بازه $(-1, 0)$

$$\frac{a}{y} = \frac{-1}{-1} + \frac{5}{-1}$$

$$\alpha a^r - v_m + q\beta = 0 \quad \beta > 0 \quad \frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha\beta} = \frac{S}{P} = \frac{-b}{C}$$

$$\frac{-b}{C} = \frac{+v}{\alpha} = \alpha + \beta \quad \begin{cases} \alpha = r \rightarrow \frac{v}{r} = r + \beta \Rightarrow \beta = \frac{v}{r} - r < 0 \text{ و } \beta < 0 \\ \alpha = -r \rightarrow \frac{-v}{-r} = -r + \beta \Rightarrow \beta = \frac{r}{v} > 0 \end{cases}$$

$$\frac{C}{\alpha} = \frac{q\beta}{\alpha} = \alpha \cdot \beta \Rightarrow q\beta = \alpha^2 \beta \Rightarrow \alpha^2 = q \quad \begin{cases} \alpha = r \\ \alpha = -r \end{cases} \quad \frac{-b}{C} = \frac{v}{\frac{r}{q}} = \frac{v}{q}$$

$$\begin{aligned} a^r + m_m - r_m &= 0 & S = \frac{-b}{C} = -m \\ \alpha^r - m\beta &= 1 & P = \frac{C}{\alpha} = -r_m \end{aligned} \quad \left. \begin{aligned} m^r + \varepsilon m &= 1 + r_m \\ m^r + r_m - 1 &= 0 \end{aligned} \right\} \begin{cases} m = -\varepsilon \times \\ m = r \checkmark \end{cases}$$

$$\begin{aligned} -m\beta &= \beta^r - r_m & \Rightarrow \Delta > 0 \Rightarrow m^r + 1m > 0 \Rightarrow m \notin [-1, \dots] \Rightarrow m = r \\ \alpha^r + \beta^r - r_m &= 1 & \frac{m}{m^r + 1m} \quad \begin{array}{c|c|c} -1 & 0 & \\ \hline + & - & + \end{array} \\ S^r - r_p &= 1 + r_m & S = \frac{-b}{C} = -m = -r \end{aligned}$$

$$y = m a^r + \varepsilon m + v + \frac{m}{r} \quad a = m \leq 0 \quad C > 0 \Rightarrow v + \frac{m}{r} > 0 \Rightarrow m > -1\varepsilon \Rightarrow m \in (-1\varepsilon, 0)$$

$$\begin{aligned} \frac{-\Delta}{\varepsilon a} &= 1 \Rightarrow \frac{r_m^r + r_m - 1}{\varepsilon m} = 1 & \text{من } a = 0 \text{ و } \text{من } k: \frac{-b \pm \Delta}{r a} = \frac{-\varepsilon - \sqrt{1 + r_m}}{-\varepsilon} = \frac{-\varepsilon - 1}{-\varepsilon} = r \\ r_m^r - 1\varepsilon &= r r_m - 1m & \begin{cases} m = \frac{1}{r} = \varepsilon > 0 \times \\ m < 0 \Rightarrow m = -r \checkmark \end{cases} \\ r_m^r - r_m - 1\varepsilon &= 0 & \end{aligned}$$

$$a a^r + b a + C = y \quad \frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha\beta} = \frac{S}{P}$$

$$\begin{aligned} a a^r + b a + \varepsilon &= y & S = \frac{-b}{C} = \frac{-r}{\frac{-1}{r}} \\ \varepsilon a + r a + r &= y & P = \frac{C}{\alpha} = \frac{\varepsilon}{\frac{-1}{r}} = \frac{-r}{\varepsilon} = \frac{-1}{r} \end{aligned}$$

$$\begin{aligned} r a + b &= 1 & \Rightarrow r a - \varepsilon a = 1 \Rightarrow a = \frac{-1}{r}, b = r \\ \frac{-b}{r a} &= r \end{aligned}$$

$$a^r - (\varepsilon a + \varepsilon) a + (r a^r + \varepsilon a + r) = y \quad a = \frac{1}{r} \rightarrow \frac{-b}{r a} = \frac{\varepsilon + \varepsilon}{r} = \frac{1}{r}$$

$$\begin{aligned} a^r - r(a+1) a + (r(a+1)^r) &= y & \alpha + \beta = r + \beta = \frac{1}{r} \\ r = \frac{1}{r} \Rightarrow \varepsilon - r(a+1) r + (r(a+1)^r) &= 0 & \text{من } r: \beta = \frac{r}{r} \end{aligned}$$

$$\begin{aligned} \varepsilon - 1 a - 1 + r a + \varepsilon a + r &= 0 & \text{من } a = 1 \text{ و } \text{من } a = -1 \text{ و } \text{من } a = 0 \\ r a^r + r a - 1 &= 0 & \text{من } a = 1: a + c = b \Rightarrow \begin{cases} +1 \text{ و } 0 \text{ و } -1 \\ -\frac{c}{a} = \frac{-1}{r} \checkmark \end{cases} \end{aligned}$$

$$\alpha = 1 \rightarrow \begin{cases} a^r \\ r a \end{cases} \quad \alpha = \frac{1}{r} \rightarrow \begin{cases} a^r \\ r a \end{cases}$$