

① НАПИСАТИ КВАДРАТНУ ЈЕДНАЧИНУ ЧИЈА О РЕШЕЊА

(I)  $x_1 = \frac{29}{7+3i}, x_2 = \frac{29}{7-3i}$

$$x_1 + x_2 = \frac{29(7-3i) + 29(7+3i)}{58} = 7$$

$$\Rightarrow b = -7a$$

$$x_1 \cdot x_2 = \frac{29^2}{58} = \frac{29}{2} \Rightarrow c = \frac{29a}{2}$$

$$2x^2 - 14x + 29 = 0$$

(II)  $x_1 = \frac{3}{7(\sqrt{6}-\sqrt{3})}, x_2 = \frac{3}{7(\sqrt{6}+\sqrt{3})}$

$$x_1 + x_2 = \frac{3(\sqrt{6}+\sqrt{3})}{7 \cdot 3} + \frac{3(\sqrt{6}-\sqrt{3})}{7 \cdot 3} = \frac{2\sqrt{6}}{7}$$

$$\Rightarrow b = -\frac{2\sqrt{6}a}{7}$$

$$x_1 \cdot x_2 = \frac{9}{49 \cdot 3} = \frac{3}{49} \Rightarrow c = \frac{3a}{49}$$

$$49x^2 + 14\sqrt{6}x + 3 = 0$$

② ДОКАЗАТИ ДА О ФАЗЛОМЦИ

(I)  $\frac{m^2x^2 + 3mx + 2}{m^2x^2 + 5mx + 6}$

$$v = \frac{m^2x^2 - 2mx - 15}{m^2x^2 - 4mx - 5}$$

РЕДУЦИРАТИ

(II)  $\frac{10x^2 - 3mx - m^2}{6x^2 - 11mx + 4m^2}$

$$a = \frac{15x^2 - 17mx - 4m^2}{9x^2 - 24mx + 16m^2}$$

ЈЕДНАКИ

(РЕШЕЊЕ ЗАДАТКА 7 ЧЛАНКУ КОНТРОЛНА ВЕЖБА ЕЕ2)

③ РЕШИТИ ЈЕДНАЧИНУ

(I)  $2x+9 - \frac{72}{(x^2-1)(2x-9)} = \frac{16}{2x-9}$

$$(x^2-1)(2x-9) - 81 - 16(x^2-1) - 72 = 0$$

$$x \neq \pm 1, x \neq \frac{9}{2}$$

$$(x^2-1)(4x^2-81) - 16x^2 - 56 = 0$$

$$4x^4 - 85x^2 + 81 - 16x^2 - 56 = 0$$

$$4x^4 - 101x^2 + 25 = 0$$

$$x_{1,2} = \frac{101 \pm \sqrt{101^2 - 4 \cdot 100}}{8} =$$

$$= \frac{101 \pm \sqrt{(101-20)(101+20)}}{8} =$$

$$= \frac{101 \pm 9 \cdot 11}{8} = \begin{cases} 25 \\ 1 \\ 4 \end{cases}$$

$$x_{1,2} = \pm 5, x_{3,4} = \pm \frac{1}{2}$$

(II)  $\frac{x^2(x+4)}{x^2-52} = \frac{16(x+4)}{x^2-52} - \frac{3}{x-4}$

$$(x^2-16)(x^2-16) + 3(x^2-52) = 0$$

$$x_{1,2} = \pm 2\sqrt{13}, x \neq 4$$

$$x^4 - 32x^2 + 256 + 3x^2 - 156 = 0$$

$$x^4 - 29x^2 + 100 = 0$$

$$x_{1,2} = \frac{29 \pm \sqrt{29^2 - 20^2}}{2} = \frac{29 \pm \sqrt{9 \cdot 49}}{2} =$$

$$= \frac{29 \pm 3 \cdot 7}{2} = \begin{cases} 25 \\ 4 \end{cases}$$

$$x_{1,2} = \pm 5, x_{3,4} = \pm 2$$

④ РЕШИТЬ СИСТЕМУ:

$$(I) \quad x^2y + xy^2 = 30$$

$$\underline{x+y=5}$$

$$xy(x+y) = 30$$

$$xy = 6$$

$$xy = 6$$

$$\underline{x+y=5}$$

$$x(5-x) = 6$$

$$\underline{x+y=5}$$

$$x^2 - 5x + 6 = 0$$

$$\underline{x+y=5}$$

$$x_{1,2} = \frac{5 \pm 1}{2} = \begin{cases} 3 \\ 2 \end{cases}$$

$$x_1 = 3: y_1 = 2$$

$$x_2 = 2: y_2 = 3$$

$$(3, 2), (2, 3)$$

$$(II) \quad x^2y - xy^2 = 2$$

$$\underline{x-y=1}$$

$$xy(x-y) = 2$$

$$xy = 2$$

$$xy = 2$$

$$\underline{x-y=1}$$

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

$$\underline{x-y=1}$$

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

$$\underline{x-y=1}$$

$$x_{1,2} = \frac{1 \pm 3}{2} = \begin{cases} 2 \\ -1 \end{cases}$$

$$x_1 = 2: y_1 = 1$$

$$x_2 = -1: y_2 = -2$$

$$(2, 1), (-1, -2)$$