

ДЗ за 30.04. Перевірити, виправити помилки, поставити самооцінку.

$$\begin{aligned}
 1) \quad & 4x^4 - 5x^2 + 1 = 0 \\
 & x^2 = t \quad x^4 = t^2 \\
 & 4t^2 - 5t + 1 = 0 \\
 & \Delta = 25 - 4 \cdot 4 \cdot 1 = 25 - 16 = 9 \\
 & t = \frac{5 \pm 3}{8}, \quad t_1 = \frac{1}{4}, \quad t_2 = 1 \\
 & x^2 = \frac{1}{4} \quad x^2 = 1 \\
 & x_1 = -\frac{1}{2}; \quad x_1 = -1 \\
 & x_2 = \frac{1}{2}; \quad x_2 = 1 \\
 & \text{В. } -1; -\frac{1}{2}; \frac{1}{2}; 1
 \end{aligned}$$

$$\begin{aligned}
 2) \quad & (x^2 + x - 3)^2 - 12(x^2 + x - 3) + 27 = 0 \\
 & x^2 + x - 3 = t \\
 & t^2 - 12t + 27 = 0 \\
 & \Delta = 144 - 4 \cdot 1 \cdot 27 = 144 - 108 = 36 \\
 & t = \frac{12 \pm 6}{2}, \quad t_1 = 3, \quad t_2 = 9 \\
 & \begin{array}{ll} x^2 + x - 3 = 3 & x^2 + x - 3 = 9 \\ x^2 + x - 6 = 0 & x^2 + x - 12 = 0 \\ \Delta = 1 - 4 \cdot (-6) = 25 & \Delta = 1 - 4 \cdot (-12) = 49 \\ x = \frac{-1 \pm 5}{2} & x = \frac{-1 \pm 7}{2} \\ x_1 = -3; x_2 = 2 & x_3 = -4; x_4 = 3 \end{array} \\
 & \text{В. } -4; -3; 2; 3.
 \end{aligned}$$

$$3) \frac{2x^2 + 8x + 8}{x^2 + 2} = 0.$$

$$x^2 + 2 \neq 0.$$

$$2x^2 + 8x + 8 = 0 \quad | :2$$

$$x^2 + 4x + 4 = 0$$

$$\Delta = 16 - 4 \cdot 4 = 0.$$

$$x = \frac{-4}{2} = -2$$

$$D_1: -2$$

$$\frac{5x-7}{x-3} = \frac{4x-3}{x}$$

$$OAB: x-3 \neq 0 \quad x \neq 3$$

$$x \neq 0$$

$$\frac{x(5x-7) - (x-3)(4x-3)}{x(x-3)} = 0.$$

$$5x^2 - 7x - (4x^2 - 12x - 3x + 9) = 0$$

$$5x^2 - 7x - 4x^2 + 15x - 9 = 0$$

$$x^2 + 8x - 9 = 0$$

$$\Delta = 8^2 - 4 \cdot 1 \cdot (-9) = 64 + 36 = 100$$

$$x = \frac{-8 \pm 10}{2} \quad \begin{cases} x_1 = -9 \\ x_2 = 1 \end{cases}$$

$$D_1: -9; 1$$