

QUIZ 3 (267)

Problem 1. Find the general solution to the system of ordinary differential equations

$$\begin{cases} x' = 4x - y \\ y' = 3x + y - z \\ z' = x + z \end{cases}$$

Problem 2. Find the general solution to the system of ordinary differential equations

$$\begin{cases} x' = x - y \\ y' = y - 4x \end{cases}$$

Problem 3. Solve the initial value problem

$$\begin{cases} x' = 2y - 3x \\ y' = y - 2x \end{cases} \quad x(0) = 0, \quad y(0) = 1.$$

Problem 4. Find the general solution to the system of ordinary differential equations

$$\begin{cases} x' = 2x - y - z \\ y' = 3x - 2y - 3z \\ z' = 2z - x + y \end{cases}$$