

The Method of Elimination- HW Problems

Find the general solutions for the following systems of linear equations. If initial conditions are given find the particular solution that satisfies them.

$$\begin{aligned} 1. \quad x' &= -2x + y \\ y' &= x - 2y \end{aligned}$$

$$\begin{aligned} 2. \quad x' &= 3x - 2y; & x(0) &= 2 \\ y' &= 2x - 2y; & y(0) &= 1 \end{aligned}$$

$$\begin{aligned} 3. \quad x' &= x - 2y; & x(0) &= -1 \\ y' &= 3x - 4y; & y(0) &= 2 \end{aligned}$$

$$\begin{aligned} 4. \quad x' &= \frac{5}{4}x + \frac{3}{4}y \\ y' &= \frac{3}{4}x + \frac{5}{4}y \end{aligned}$$

$$\begin{aligned} 5. \quad x' &= -3x - 4y \\ y' &= 2x + y \end{aligned}$$