

Review

1. Solve the system

$$\begin{aligned}x_1' &= -2x_1 + x_2 \\x_2' &= x_1 - 2x_2.\end{aligned}$$

2. Solve the system

$$\begin{aligned}x_1' &= x_1 + 3x_2 \\x_2' &= 3x_1 - x_2.\end{aligned}$$

3. Solve the initial value problem

$$\begin{aligned}x_1' &= 5x_1 - x_2 \\x_2' &= 3x_1 + x_2.\end{aligned}$$

$$x_1(0) = 2, x_2(0) = -1.$$

4. Solve the initial value problem

$$\begin{aligned}x_1' &= -2x_1 + x_2 \\x_2' &= -5x_1 + 4x_2.\end{aligned}$$

$$x_1(0) = 1, x_2(0) = 3.$$

5. Solve the initial value problem

$$\begin{aligned}x_1' &= x_1 - 5x_2 \\x_2' &= x_1 - 3x_2\end{aligned}$$

$$x_1(0) = 1, \quad x_2(0) = 1.$$

6. Solve the initial value problem

$$\begin{aligned}x_1' &= -3x_1 + 2x_2 \\x_2' &= -x_1 - x_2\end{aligned}$$

$$x_1(0) = 1, \quad x_2(0) = -2.$$

7. Solve the system of differential equations

$$\begin{aligned}x_1' &= 3x_1 + 9x_2 \\x_2' &= -x_1 - 3x_2\end{aligned}$$

8. Solve the system of differential equations

$$\begin{aligned}x_1' &= 3x_1 - 4x_2 \\x_2' &= x_1 - x_2\end{aligned}$$

9. Solve the initial value problem

$$\begin{aligned}x_1' &= -x_2 \\x_2' &= x_1.\end{aligned}$$

10. Solve the initial value problem

$$\begin{aligned}x_1' &= 2x_2 \\x_2' &= -2x_1.\end{aligned}$$