

Diferensiyel Denklemler Sistemleri

Alytirmalar

$$\begin{cases} 1) \quad 2 \frac{dx}{dt} + \frac{dy}{dt} + x + y = t^2 + 4t \\ \frac{dx}{dt} + \frac{dy}{dt} + 2x + 2y = 2t^2 - 2t \end{cases}$$

$$\begin{cases} 2) \quad (D^2 - 1)x + D^2 y = -2 \sin t \\ (D^2 + 1)x - D^2 y = 0 \end{cases}$$

$$\begin{cases} 3) \quad x'' + y' - 4y = e^t \\ x' + y' + y = \cos t \end{cases}$$

$$\begin{cases} 4) \quad x' - x + y' + y = 0 \\ 2x' + 2x + 2y' - 2y = t \end{cases}$$

$$\begin{cases} 5) \quad x' - y' - 4y = e^{-t} \\ x + y' + 3y = e^{2t} \end{cases}$$

$$\begin{cases} 6) \quad x' - y' - 2x + 4y = t \\ x' + y' - x - y = 1 \end{cases}$$

$$\begin{cases} 7) \quad x'' + x' + y' = 1 \\ x + y' + y - z = 0 \\ x'' + y'' + z'' = e^t \end{cases}$$

$$\begin{cases} 8) \quad (D^2 + 2D + 1)x + 2Dy + 3Dz = 1 \\ Dx + z = 0 \\ x - Dy - Dz = 0 \end{cases}$$

$$9) \begin{cases} x' = x + 4y + e^t \\ y' = x + y + e^t \end{cases} \quad \left. \begin{array}{l} x(0) = 2, y(0) = 1 \end{array} \right\}$$

$$10) \begin{cases} x'' + 2y'' = -x \\ -3x'' + 2y'' = 3x - 4y \end{cases} \quad \left. \begin{array}{l} x(0) = 2, x'(0) = -7 \\ y(0) = 4, y'(0) = -9 \end{array} \right\}$$

$$11) \begin{cases} x' = -x - 3y + 3z \\ y' = -4y + 3z \\ z' = -6y + 5z \end{cases} \quad \left. \begin{array}{l} x(0) = -1, y(0) = 1, z(0) = 0 \end{array} \right\}$$

$$12) \begin{cases} x' = 4x + 6y \\ y' = -3x - 5y \end{cases} \quad \left. \begin{array}{l} x(0) = 1, y(0) = 0 \end{array} \right\}$$

$$13) \begin{cases} x' = 4x + 6y + 1 \\ y' = -3x - 5y + t \end{cases} \quad \left. \begin{array}{l} x(0) = 1, y(0) = 0 \end{array} \right\}$$