(1) Give an explicit solution to the Initial Value Problem
\[ xy' - y = 1 \]
with \( y(1) = 10 \).

(2) Find an implicit general solution to
\[ \frac{dy}{dx} = \frac{y^3}{5 - 3xy^2}. \]

(3) Solve the Initial Value Problem
\[ y'' + 4y = 4 \cos 2t \]
with \( y(0) = 0 \) and \( y'(0) = 2 \).

(4) Find the general solution to
\[ y'' - 8y' + 16 = 0. \]

(5) Solve the Initial Value Problem
\[ \mathbf{x}' = \begin{bmatrix} -1 & 1 \\ -1 & -1 \end{bmatrix} \mathbf{x} \]
with \( x_1(0) = 4 \) and \( x_2(0) = 3 \).

(6) Find the general solution to the system
\[ \mathbf{x}' = \begin{bmatrix} 4 & 3 \\ -3 & -2 \end{bmatrix} \mathbf{x}. \]