

1. Find a particular solution of the system $x' = -16y$, $y' = x$ satisfying the initial conditions $x(0) = 1$, $y(0) = -1$

2. Solve the system $Y' = AY$ where $A = \begin{bmatrix} 2 & 8 & 0 \\ -1 & -2 & 0 \\ 0 & 0 & 1 \end{bmatrix}$