

1. [5pts] Use variation of parameters to find the general solution of $X' = \begin{pmatrix} 0 & 2 \\ -1 & 3 \end{pmatrix} X + \begin{pmatrix} 2 \\ e^{-3t} \end{pmatrix}$

2. [5pts] Use matrix exponential method to solve $X' = \begin{pmatrix} 6 & 4 \\ -9 & -6 \end{pmatrix} X$