

M351 10.4 (S. Zhang) hw 16.

1. Solve the system $x' = Ax + F$ where finding x_H by the eigenfunctions and
 - (a) and x_P by the Undetermined Coefficients,
 - (b) and x_P by the method of Variation of parameters,
 - (c) and x_P by the method of Diagonalization,
 - (d) and by direct elimination for the whole x .

$$x' = Ax + b, \quad A = \begin{pmatrix} -2 & -2 \\ 1 & 1 \end{pmatrix}, \quad b = \begin{pmatrix} 4e^t \\ 0 \end{pmatrix}$$