

HOMEWORK 11-PART A

In following 3 exercises, (a) solve the initial value problem,
(b) draw the solution on the phase plane.(Try to be precise).

1. $y' = Ay$, where $A = \begin{pmatrix} 8 & 3 \\ -6 & -1 \end{pmatrix}$ and $y(0) = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$.

2. $y' = Ay$, where $A = \begin{pmatrix} 8 & 3 \\ -6 & -1 \end{pmatrix}$ and $y(0) = \begin{pmatrix} 0 \\ -2 \end{pmatrix}$.

3. $y' = Ay$, where $A = \begin{pmatrix} -11 & -5 \\ 10 & 4 \end{pmatrix}$ and $y(0) = \begin{pmatrix} 0 \\ 1 \end{pmatrix}$.