1. Let $A = \begin{bmatrix} -10 & -7/2 \\ 42 & 29/2 \end{bmatrix}$.

   (a) Factor $A = PDP^{-1}$

   (b) Graph the longterm effects of D on $(1, 4)$, $(1, -4)$, $(-1, -4)$ and $(-1, 4)$.

   (c) On one set of axes, draw the eigenspaces of A and the flow lines for several points in each of regions determined by the eigenspaces.

2. Find a non-diagonal 2×2 matrix A where the origin is a sink (or an attractor).

   Draw the eigenspaces of A and the flow lines for several points in each region.