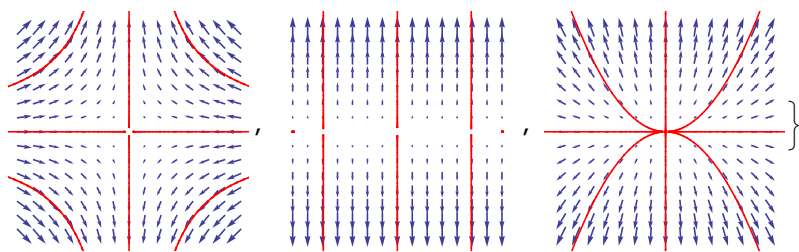
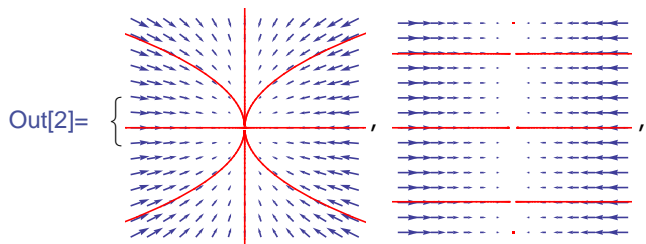


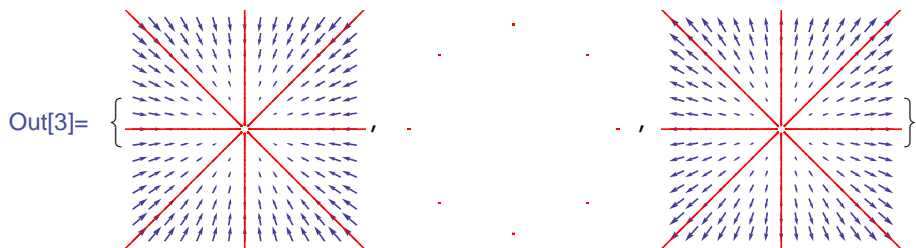
Pensieve header: Plotting Phase Portraits.

```
In[1]:= PP[A_] := Show[VectorPlot[A.( $\begin{pmatrix} x \\ y \end{pmatrix}$ ), {x, -1, 1}, {y, -1, 1}, Frame -> None],
  ParametricPlot[
    Evaluate[Table[MatrixExp[t A].( $\begin{pmatrix} \text{Cos}[\theta] \\ \text{Sin}[\theta] \end{pmatrix}$ ), {\theta, \pi/4, 2 \pi, \pi/4}]],
    {t, -\pi, \pi}, ColorFunction -> (Red &)],
  ImageSize -> 150]
```

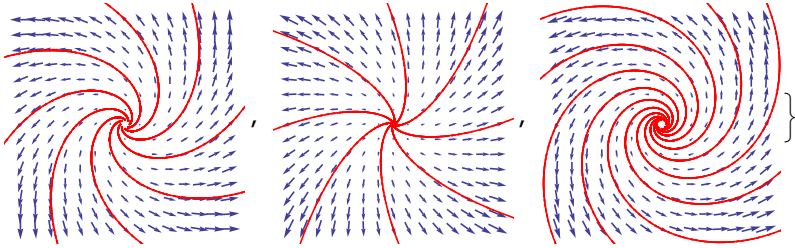
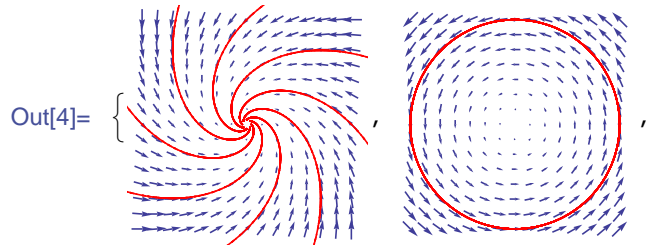
```
In[2]:= PP /@ {( $\begin{pmatrix} -2 & 0 \\ 0 & -1 \end{pmatrix}$ ), ( $\begin{pmatrix} -1 & 0 \\ 0 & 0 \end{pmatrix}$ ), ( $\begin{pmatrix} -1 & 0 \\ 0 & 1 \end{pmatrix}$ ), ( $\begin{pmatrix} 0 & 0 \\ 0 & 1 \end{pmatrix}$ ), ( $\begin{pmatrix} 1 & 0 \\ 0 & 2 \end{pmatrix}$ )}
```



```
In[3]:= PP /@ {( $\begin{pmatrix} -1 & 0 \\ 0 & -1 \end{pmatrix}$ ), ( $\begin{pmatrix} 0 & 0 \\ 0 & 0 \end{pmatrix}$ ), ( $\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$ )}
```



In[4]:= `PP /@ {` $\left\{ \begin{pmatrix} -1 & -1 \\ 1 & -1 \end{pmatrix}, \begin{pmatrix} 0 & -1 \\ 1 & 0 \end{pmatrix}, \begin{pmatrix} 1 & -1 \\ 1 & 1 \end{pmatrix}, \begin{pmatrix} 3 & -1 \\ 1 & 3 \end{pmatrix}, \begin{pmatrix} 1 & -2 \\ 2 & 1 \end{pmatrix} \right\}$ `}`



In[5]:= `PP /@ {` $\left\{ \begin{pmatrix} -1 & 1 \\ 0 & -1 \end{pmatrix}, \begin{pmatrix} 0 & 1 \\ 0 & 0 \end{pmatrix}, \begin{pmatrix} 1 & 1 \\ 0 & 1 \end{pmatrix} \right\}$ `}`

