

# Eigenvalues and Eigenvectors

Due November 17

November 8, 2010

Use the applet at

[math.mit.edu/daimp/MatrixVector.html](http://math.mit.edu/daimp/MatrixVector.html)

to find the eigenvalues and eigenvectors of the following  $2 \times 2$  matrices. (You do *not* need to compute using characteristic polynomials.)

1.  $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$

2.  $\begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$

3.  $\begin{bmatrix} 1 & 2 \\ 0 & 1 \end{bmatrix}$

4.  $\begin{bmatrix} 0 & 1 \\ 0 & 1 \end{bmatrix}$