The matrix

$$A = \begin{bmatrix} 2 & 0 & 0 \\ 9 & 7 & -12 \\ 8 & 6 & -11 \end{bmatrix}$$

has eigenvalues -5, 1, and 2. Find its eigenvectors.

The eigenvalue -5 has associated eigenvector $\begin{bmatrix} \rule{1.5em}{0pt} \\ \rule{1.5em}{0pt} \\ \rule{1.5em}{0pt} \end{bmatrix}$.

The eigenvalue 1 has associated eigenvector $\begin{bmatrix} \rule{1.5em}{0pt} \\ \rule{1.5em}{0pt} \\ \rule{1.5em}{0pt} \end{bmatrix}$.

The eigenvalue 2 has associated eigenvector $\begin{bmatrix} \rule{1.5em}{0pt} \\ \rule{1.5em}{0pt} \\ \rule{1.5em}{0pt} \end{bmatrix}$.

The matrix

$$A = \begin{bmatrix} 2 & 0 & 0 \\ 9 & 7 & -12 \\ 8 & 6 & -11 \end{bmatrix}$$

has eigenvalues -5, 1, and 2. Find its eigenvectors.

The eigenvalue -5 has associated eigenvector $\begin{bmatrix} 0 \\ -1 \\ -1 \end{bmatrix}$.

The eigenvalue 1 has associated eigenvector $\begin{bmatrix} 0 \\ -2 \\ -1 \end{bmatrix}$.

The eigenvalue 2 has associated eigenvector $\begin{bmatrix} 1 \\ 3 \\ 2 \end{bmatrix}$.