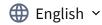
Selecting eigenvectors by inspection

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Practice Assignment • 20 min



Your grade: 100%

Your latest: 100% • Your highest: 100%

To pass you need at least 80%. We keep your highest score.

Next item \rightarrow

1. Recall that for a linear transformation, an eigenvector is a vector which, after applying the transformation, stays in the same span. In the following questions, you will try to geometrically see which vectors of a linear transformation are eigenvectors.

1/1 point

In the following diagram, the dark green vector is given by $\begin{bmatrix} 1 \\ 0 \end{bmatrix}$, the purple vector by $\begin{bmatrix} 1 \\ 1 \end{bmatrix}$ and the brown vector by $\begin{bmatrix} 0 \\ 1 \end{bmatrix}$.

The transformation $T=\begin{bmatrix}2&0\\0&2\end{bmatrix}$ is applied, which sends the three vectors to the light green vector $\begin{bmatrix}2\\0\end{bmatrix}$, the magenta vector $\begin{bmatrix}2\\2\end{bmatrix}$ and the orange vector $\begin{bmatrix}0\\2\end{bmatrix}$, respectively.

