



**Congratulations! You passed!**

**TO PASS** 80% or higher

Keep Learning

**GRADE**  
**100%**

# Selecting eigenvectors by inspection

TOTAL POINTS 6

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.

