Congratulations! You passed!

TO PASS 80% or higher

Keep Learning

GRADE
100%

Changing basis

TOTAL POINTS 5

1. In this quiz, you will practice changing from the standard basis to a basis consisting of orthogonal vectors. **1 / 1 point**

Given vectors $\mathbf{v} = \begin{bmatrix} 5 \\ -1 \end{bmatrix}$, $\mathbf{b_1} = \begin{bmatrix} 1 \\ 1 \end{bmatrix}$ and $\mathbf{b_2} = \begin{bmatrix} 1 \\ -1 \end{bmatrix}$ all written in the standard basis, what is $\mathbf{v}$ in the basis defined by $\mathbf{b_1}$ and $\mathbf{b_2}$? You are given that $\mathbf{b_1}$ and $\mathbf{b_2}$ are orthogonal to each other.

- $\mathbf{v_b} = \begin{bmatrix} -3 \\ 2 \end{bmatrix}$
- $\mathbf{v_b} = \begin{bmatrix} 3 \\ 2 \end{bmatrix}$
- $\mathbf{v_b} = \begin{bmatrix} 3 \\ -2 \end{bmatrix}$
- $\mathbf{v_b} = \begin{bmatrix} 2 \\ \end{bmatrix}$