
Exercise 1 Find $\mathbf{v} \times \mathbf{w}$ if

$$\mathbf{v} = \begin{bmatrix} 2 \\ -1 \\ 4 \end{bmatrix} ; \quad \mathbf{w} = \begin{bmatrix} 3 \\ -3 \\ 1 \end{bmatrix}$$

$$\mathbf{v} \times \mathbf{w} = \begin{bmatrix} \dots \\ \dots \\ \dots \end{bmatrix}$$

Which of the following is true about $\mathbf{v} \times \mathbf{w}$?

Multiple Choice:

1. $\|\mathbf{v} \times \mathbf{w}\|$ is the product of $\|\mathbf{v}\|$ and $\|\mathbf{w}\|$.
2. $\mathbf{v} \times \mathbf{w}$ is parallel to ONE of the original vectors.
3. $\mathbf{v} \times \mathbf{w}$ is orthogonal to ONE of the original vectors.
4. $\mathbf{v} \times \mathbf{w}$ is orthogonal to BOTH of the original vectors.