

Let

$$\vec{x} = \begin{bmatrix} 1 \\ 3 \\ 0 \end{bmatrix} \quad \text{and} \quad \vec{y} = \begin{bmatrix} 2 \\ -3 \\ 1 \end{bmatrix}.$$

Find the vectors $\vec{v} = 7\vec{x}$, $\vec{u} = \vec{x} + \vec{y}$, and $\vec{w} = 7\vec{x} + \vec{y}$.

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$$\vec{v} = \begin{bmatrix} 7 \\ 21 \\ 0 \end{bmatrix}$$

$$\vec{u} = \begin{bmatrix} 3 \\ 0 \\ 1 \end{bmatrix}$$

$$\vec{w} = \begin{bmatrix} 9 \\ 18 \\ 1 \end{bmatrix}$$