1. Let \( \vec{v}_1 = \begin{bmatrix} 3 \\ -2 \end{bmatrix} \in \mathbb{R}^2 \) and \( \vec{v}_2 = \begin{bmatrix} 2 \\ 1 \end{bmatrix} \in \mathbb{R}^2 \).

(a) Draw a picture showing \( \vec{v}_1, \vec{v}_2, \) and \( -\vec{v}_1 + 4\vec{v}_2 \) as directed line segments at the origin. Label each of these vectors in the picture. (Do this graphically, \textit{before} you compute \( -\vec{v}_1 + 4\vec{v}_2 \) numerically).

(b) Compute \( -\vec{v}_1 + 4\vec{v}_2 \) numerically.