

## Worksheet: Visualize vectors and matrices.

The goal of this worksheet is to get to know other students in the class, consider some basic questions about the objects of linear algebra, and preview a big idea.

(a) Here are two vectors:

$$\mathbf{v} = \begin{bmatrix} 3 \\ -5 \end{bmatrix}, \quad \mathbf{w} = \begin{bmatrix} 1 \\ -2 \\ 3 \end{bmatrix}.$$

Visualize them by simple sketches in the space below. (*No tricks implied; not challenging.*)

(b) Here is a matrix:

$$A = \begin{bmatrix} 2 & 5 \\ 1 & -1 \\ 0 & 2 \end{bmatrix}.$$

Visualize the matrix  $A$  by simple sketches. (*You must decide what this means!*)