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:

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

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

(b) Here is a matrix:

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

What does "matrix" mean? Please brainstorm on answers; list as many as appropriate.

(c) Visualize the matrix A in part **(b)**.