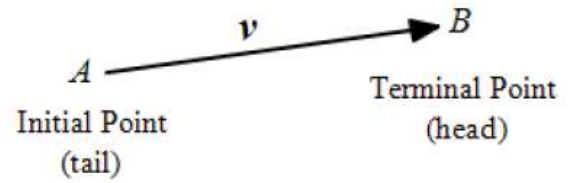


Two-Dimensional Vectors 15.1

A two-dimensional vector is a _____
 that shows **both** _____ and _____.

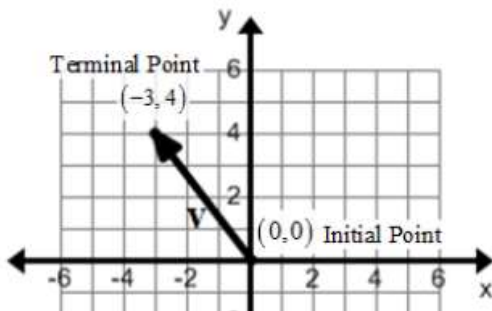


Magnitude (shown as $|v|$ or as $\|v\|$):

For example, a car traveling due east at 55 mph could be represented by a vector because it has a magnitude of 55 mph and a direction of due east.

Notation

\overrightarrow{AB}	
\vec{v}	
\mathbf{v}	
$\langle a, b \rangle$	
$\begin{bmatrix} a \\ b \end{bmatrix}$	



Component form:

Matrix form:

Find $\|v\|$:

Example 1: What is the magnitude of the vector $a = \langle 3,8 \rangle$?

Example 2: What is the component form for the vector with initial point $(-7,2)$ and whose terminal point is $(5,-3)$?