Vector: magnitude and direction

$$\vec{v} = (3, 4) = \begin{bmatrix} 3 \\ 4 \end{bmatrix}$$

$\mathbb{R}^2$. These are in "2" space. A 2-Tuple. 2-Dimensional. Here is one in $\mathbb{R}^3$.

$$\vec{v} = (3, 4, 5) = \begin{bmatrix} 3 \\ 4 \\ 5 \end{bmatrix}$$

Adding Vectors

$$\vec{a} = \begin{bmatrix} 6 \\ -2 \end{bmatrix} \vec{b} = \begin{bmatrix} -4 \\ 4 \end{bmatrix}$$

$\vec{a}, \vec{b} \in \mathbb{R}^2$

Vectors a, and b are members of $\mathbb{R}^2$

$\vec{a} + \vec{b} = \begin{bmatrix} 6 + (-4) \\ -2 + 4 \end{bmatrix} = \begin{bmatrix} 2 \\ 2 \end{bmatrix}$