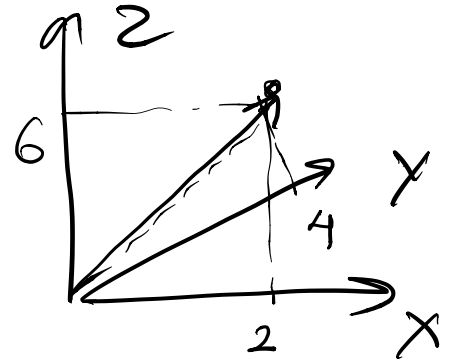
- **Vector** intro for linear Algebra



$$\begin{bmatrix} 2 \\ 4 \\ 6 \end{bmatrix}$$

$$\vec{V} = (2, 4, 6)$$

- Real Coordinate space

$\mathbb{R}^2 \Rightarrow$ 2D real coordinate space.

= all possible real valued 2-tuple

$\mathbb{R}^n$

$$x = \begin{bmatrix} x \\ y \end{bmatrix}$$ Any real number

$x \in \mathbb{R}^2$

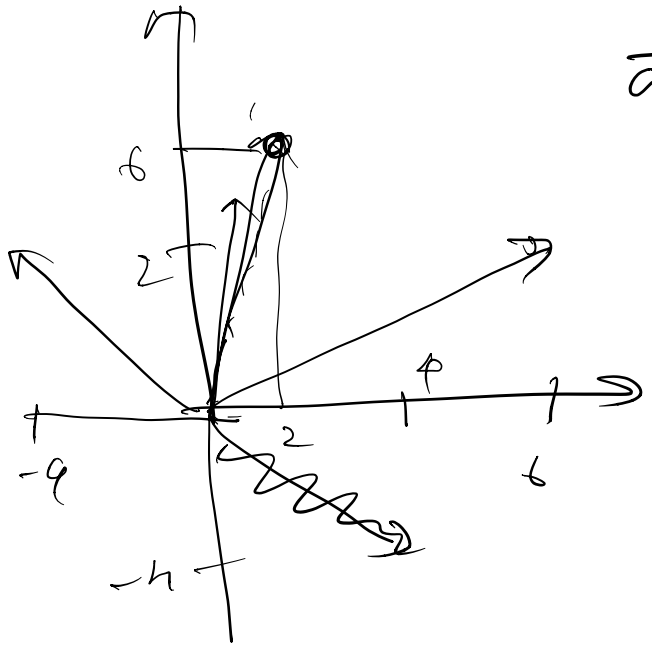
$\therefore x$ is a member of $\mathbb{R}^2$

- Adding vectors algebraically & graphically.

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

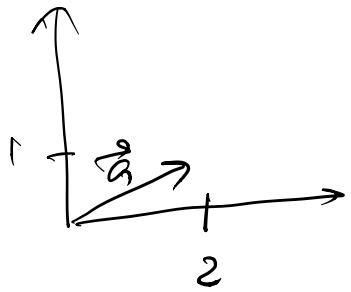
$$\vec{a} + \vec{b} = \begin{bmatrix} 6 \\ 2 \end{bmatrix} + \begin{bmatrix} -4 \\ 4 \end{bmatrix} = \begin{bmatrix} 2 \\ 6 \end{bmatrix}$$

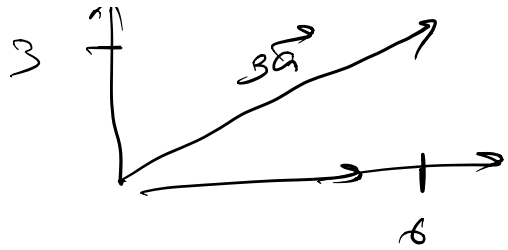
$\vec{a}, \vec{b} \in \mathbb{R}^2$



- Multiplying a vector by a scalar

$$\vec{a} = \begin{bmatrix} 2 \\ 1 \end{bmatrix} \quad 3\vec{a} = \begin{bmatrix} 6 \\ 3 \end{bmatrix}$$


1
2


3
6