Notation	$\overrightarrow{AB} = B - A = (b_1 - a_1, b_2 - a_2)$	ex : $A(3, 2)$ e $B(4, 5)$ $\overrightarrow{AB} = (4, 5) - (3, 2) = (4 - 3, 5 - 2) = (1, 3)$
Magnitude	$\left\| \vec{u} \right\| = \sqrt{(u_1)^2 + (u_2)^2}$	ex : $\vec{u}(3, 2)$ $\left\| \vec{u} \right\| = \sqrt{3^2 + 2^2} \Leftrightarrow \left\| \vec{u} \right\| = \sqrt{13}$
Square of magnitude of a vector	$\left(\vec{u} \right)^2 = \left\| \vec{u} \right\|^2$	ex : $\vec{u}(4, 3)$ e $\left\| \vec{u} \right\| = 5$ logo $\left(\vec{u} \right)^2 = 5^2$
Calculations	$A + \vec{u} = (a_1 + u_1, a_2 + u_2)$	ex : $A(4, 5)$ e $\vec{u}(3, 2)$ $A + \vec{u} = (4 + 3, 5 + 2) \Leftrightarrow A + \vec{u} = (7, 7)$
	$\vec{u} + \vec{v} = (u_1 + v_1, u_2 + v_2)$	ex : $\vec{u}(6, 3)$ e $\vec{u}(2, 1)$ $\vec{u} + \vec{v} = (6 + 2, 3 + 1) \Leftrightarrow \vec{u} + \vec{v} = (8, 4)$
	$k \times \vec{u} = (k \times u_1, k \times u_2)$	ex : $k = 2$ e $\vec{u}(3, 4)$ $k \times \vec{u} = (2 \times 3, 2 \times 4) \Leftrightarrow k \times \vec{u} = (6, 8)$
	The Scalar or Dot Product $\vec{u} \cdot \vec{v} = u_1 \times v_1 + u_2 \times v_2$	ex : $\vec{u}(2, 1)$ e $\vec{v}(0, 3)$ $\vec{u} \cdot \vec{v} = 2 \times 0 + 1 \times 3$ $\vec{u} \cdot \vec{v} = 3$
		$\vec{u} \cdot \vec{v} = \left\| \vec{u} \right\| \times \left\| \vec{v} \right\| \times \cos\left(\vec{u} \,\hat{}\, \vec{v} \right)$
Angle between two lines	Direction vector of lines: $\vec{u}$ e $\vec{v}$ angle: α	$\cos \alpha = \dfrac{\left| \vec{u} \cdot \vec{v} \right|}{\left\| \vec{u} \right\| \times \left\| \vec{v} \right\|}$

To use the above concepts in space, just add a third coordinate.