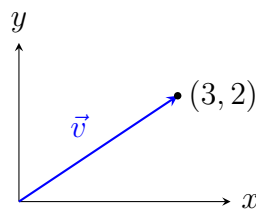


**Admin Notes / Agenda**

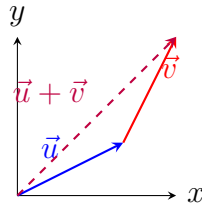
- Tech Lab III Review
- Lecture
- Board Problem

**Summary of Key Terms and Operations**

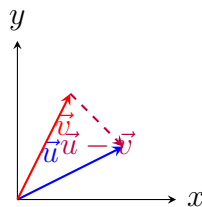
- **Vector (Position Form):** Represents a quantity with magnitude and direction, such as  $\vec{v} = \langle 3, 2 \rangle$ .



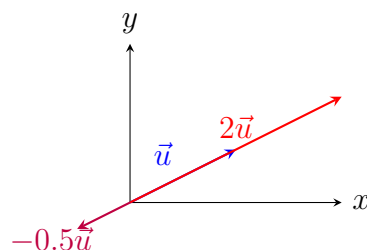
- **Vector Addition:**  $\vec{u} + \vec{v} = \langle u_1 + v_1, u_2 + v_2 \rangle$



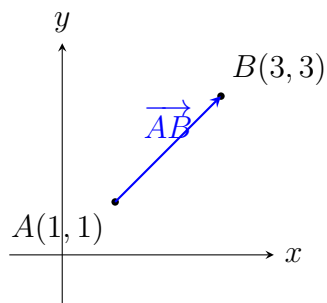
- **Vector Subtraction:**  $\vec{u} - \vec{v} = \langle u_1 - v_1, u_2 - v_2 \rangle$



- **Scalar Multiplication:**  $c\vec{u} = \langle cu_1, cu_2 \rangle$



- **Displacement Vector:** From  $A(x_1, y_1)$  to  $B(x_2, y_2)$ ,  $\vec{AB} = \langle x_2 - x_1, y_2 - y_1 \rangle$



- **Magnitude (Length):**  $|\vec{v}| = \sqrt{v_1^2 + v_2^2}$  represents the length of the vector.

