

Let  $\vec{v} = \langle x_1, y_1 \rangle$  and  $\vec{w} = \langle x_2, y_2 \rangle$  be vectors, and let  $k$  be a scalar.

**Scalar Multiplication:**  $k\vec{v} = \langle kx_1, ky_1 \rangle$

**Vector Addition:**  $\vec{v} + \vec{w} = \langle x_1, y_1 \rangle + \langle x_2, y_2 \rangle = \langle x_1 + x_2, y_1 + y_2 \rangle$