



Vocabulary: Adding Vectors



Vocabulary

- **Component** – the projection of a vector in a given direction.
 - On a coordinate grid, a vector can be described by an x-component and a y-component.
 - For example, vector **a** shown to the right has an x-component of 3 and a y-component of 4.
- **Initial point** – the starting point of a vector.
 - The initial point is found at the base of the arrow.
- **Magnitude** – the length of a vector.
 - Magnitude is the distance from the initial point of a vector to its terminal point and is always positive.
 - For example, the magnitude of the vector shown to the right is 4 units.
 - The magnitude of a vector that is not perfectly vertical or horizontal can be found using the Pythagorean Theorem.
 - The expression $||\mathbf{b}||$ represents the magnitude of vector **b**.
- **Resultant** – a vector representing the sum of two or more vectors.
- **Scalar** – a quantity that has magnitude, but no direction.
 - Examples of scalars include speed, temperature, and volume.
- **Terminal point** – the ending point of a vector.
 - The terminal point is at the tip of the arrow.
- **Vector** – a representation that specifies the direction and magnitude of a quantity.
 - Vector **a** shown to the right has a length of 5 units and a direction that is northwest.
 - Vector **a** $\langle -3, 4 \rangle$ has initial point (1, 1) and terminal point (-2, 5).
 - A vector with an initial point at the origin is in *standard position*.

