6.3 Vector Combination Using Component Form



**Finding the Direction Angle in Standard Position**

Ex: Find the direction angle of $v=\left〈-3, 2 \right〉$

The magnitude of a vector can represent several different quantities, including:

To combine vectors (forces/velocities) ­­­­­­­­­­­­­

The sum of 2 or more vectors = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |
| --- | --- |
| **Tail to Tip Method** | **Parallelogram Method** |
|  |  |

**Writing a vector in component form given magnitude and direction:**

Ex: Write the component form of vector **v** with magnitude 400 N and a direction angle of 135ᵒ.

Ex: Find the resultant force and direction for **u** + **v**.

135ᵒ

  **v 400 N**

 **u**

25ᵒ

**300 N**