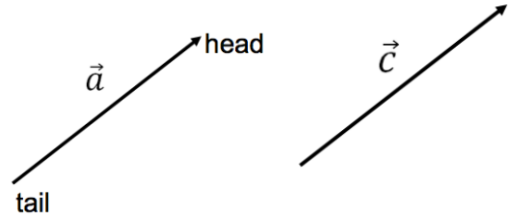


Section 6-6 Vector Addition

A **vector** is a directed line segment that has both **magnitude** and **direction**. It is customary to represent a vector by using an arrow. The length of the arrow represents the magnitude and the arrowhead represents direction.

The *absolute value*, or magnitude, is equal to its length.

$|\vec{x}|$

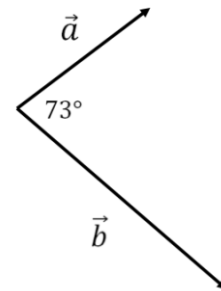


Two vectors are equal if and only if they have the same magnitude and the same direction.

1. sum of two vectors - **Resultant Vector**

$$|\vec{a}| = 7cm \quad |\vec{b}| = 11cm$$

find $|\vec{a} + \vec{b}|$ and the angle the resultant vector makes with \vec{a}



2. A ship near the coast is going 9 knots at an angle of 130° to a current of 4 knots. What is the ship's resultant velocity with respect to the current?

