

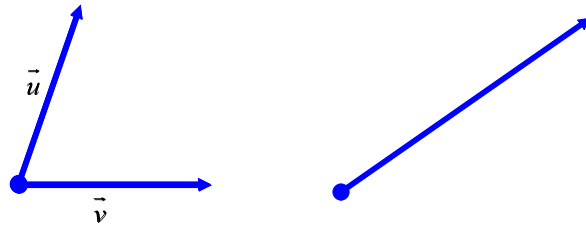
# Resultant Vectors

## What is a resultant vector?

A resultant vector is the *result* of adding two vectors

The Parallelogram/Triangle Method

$$\vec{u} + \vec{v}$$



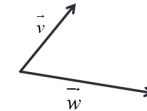
**The Law of Cosines:**

$$a^2 = b^2 + c^2 - 2bc \cos A$$

**Example 1:** Round to the hundredth if necessary.

• Given  $\|\vec{v}\|=5$  and  $\|\vec{w}\|=9$  and the angle between the two vectors is  $\theta = 58^\circ$ . Find ...

• a) the magnitude of the resultant

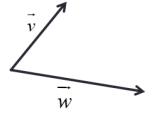


• b) the measure of the angle between the resultant and  $\vec{v}$

**Example 2:** Round to the hundredth if necessary.

• Given  $\|\vec{v}\|=3$  and  $\|\vec{w}\|=17$  and the angle between the two vectors is  $\theta = 132^\circ$ . Find ...

• a) the magnitude of the resultant



• b) the measure of the angle between the resultant and  $\vec{v}$