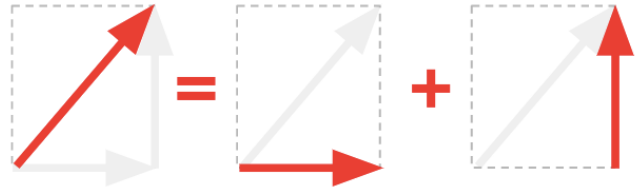


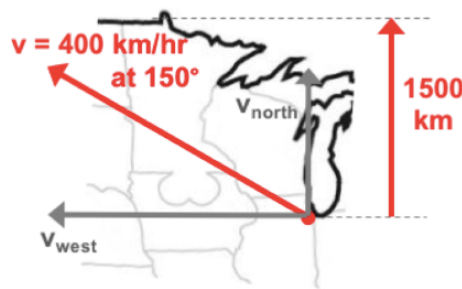
Vector Components Lesson Notes

What is a Component?

A vector drawn *at an angle* can be thought of as having two parts - here, a north and an east part. These parts are called **vector components**.

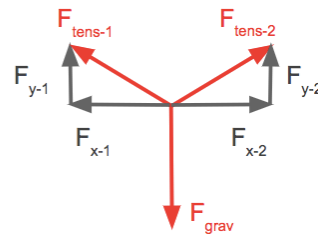
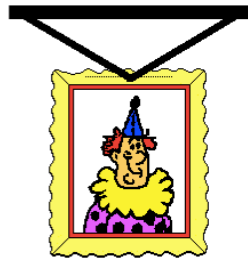


A vector's components describe the **effect of a vector in a given direction**.



The time to travel 1500 km north to the border depends on the northern component of the velocity.

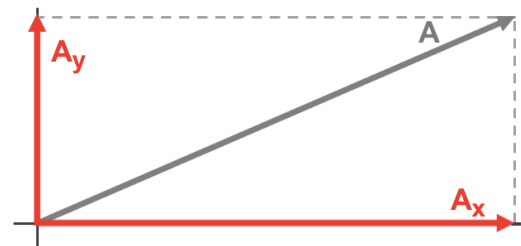
It is the upward components of the two tension forces that balances the downward force of gravity.



Components as Projections of a Vector Onto an Axis

A vector component is the projection of a vector onto the x- or the y-axis.

1. Construct x-y axis at the tail of the vector.
2. Construct horizontal and vertical projections from the arrowhead of the vector to the x- and the y-axis.
3. Draw the components from the tail of the vector along the axis to the location where the projections intersect the axis. Do this for both the horizontal and the vertical component.
4. Label the vectors with a component label ... like A_x and A_y .



Identifying the Components

The quadrant that a vector lies within determines the type of components that the vector has. For instance, a vector lying in the second quadrant has a north and a west component.

