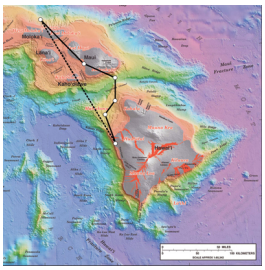
4.2 Vector Addition: Motion Problems

4.2 I can add and subtract vectors graphically.

4.3 I can add and subtract vectors using the component method.

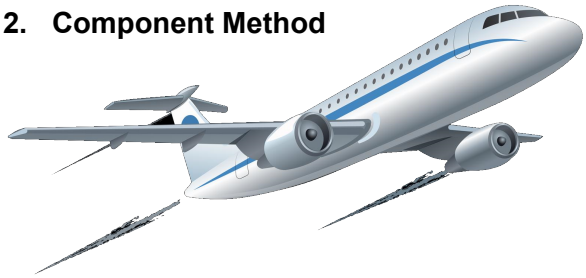


Every vector can be broken into 2 components

To add vectors graphically, we use the head to tail technique.

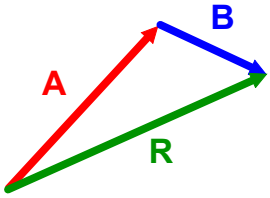
2 Methods of Adding Vectors

1. **Graphical Method**
   - « Head-to-Tail Addition
2. **Component Method**



Graphical Method: Head-to-Tail Addition

Adding vectors graphically: Place the tail of the second at the head of the first. The sum points from the tail of the first to the head of the last.

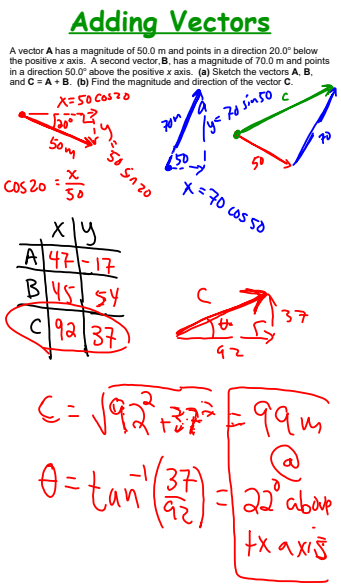


$\vec{R} = \vec{A} + \vec{B}$

Component Method

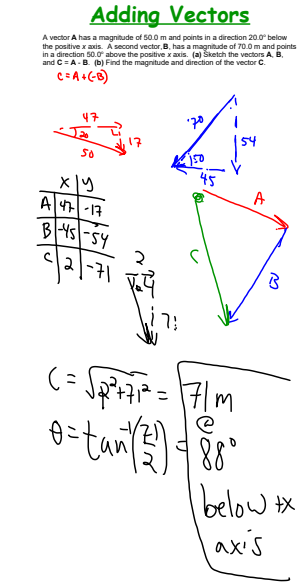
Adding Vectors Using Components:

1. **Find the components of each vector to be added.**
2. **Add the *x*- and *y*-components separately.**
3. **Find the resultant vector.**

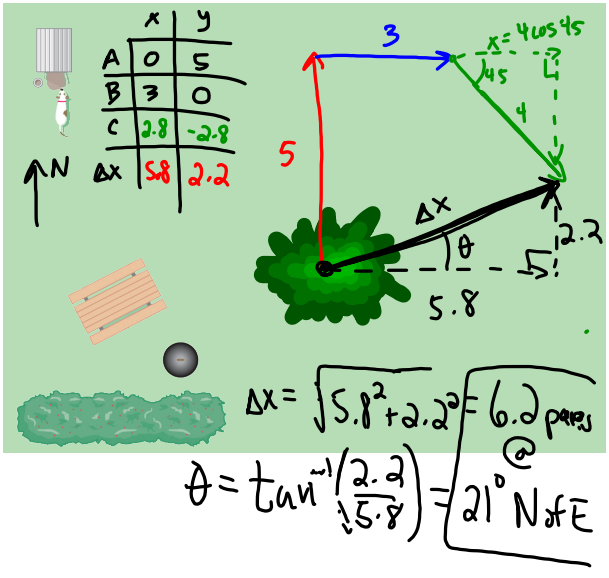


Subtracting Vectors

The negative of a vector is represented by an arrow of the same length as the original vector, but pointing in the opposite direction.



Treasure Map



HOMEWORK

Unit 4 Problems (5-7)