

## Chapter C2: MDI Vectors

Consider the following vectors:

- $\vec{a}$  = the displacement from COA to the Bar Harbor airport.
- $\vec{b}$  = the displacement from MDI High School to Thunder Hole.
- $\vec{c}$  = the displacement from Somesville to The Jackson Lab.

1. Specify vectors  $\vec{a}$ ,  $\vec{b}$ ,  $\vec{c}$  by giving their magnitude and direction. Use units of centimeters.

2. On a separate sheet of paper, draw (to scale) the following:

(a)  $\vec{a} + \vec{b}$

(b)  $\vec{b} + \vec{c}$

(c)  $\vec{c} - \vec{a}$

3. Using your ruler and protractor, determine the magnitude and direction of three vectors you drew for the previous problem.

4. Specify vectors  $\vec{a}$ ,  $\vec{b}$ ,  $\vec{c}$  by giving their components. Do not use trigonometry.

5. Give the components of the following:

(a)  $\vec{a} + \vec{b}$

(b)  $\vec{c} - \vec{a}$

6. On a separate sheet of paper draw (to scale) the following:

(a)  $3\vec{a}$

(b)  $2\vec{b} - 3\vec{c}$

7. Give the magnitude, direction, and components, of two vectors you drew for the previous problem.