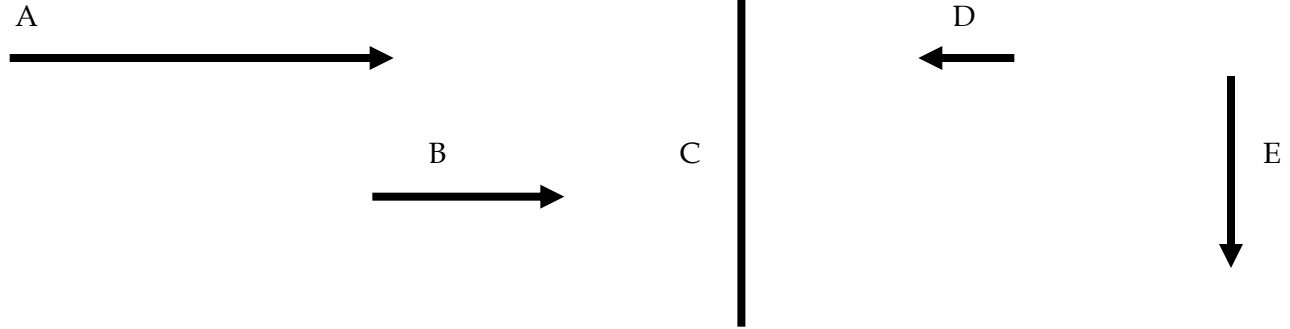


Adding Vectors
Honors Physics

Name _____



Graphically: (1) add the following vectors together (2) sketch the resultant vector (3) determine the magnitude and direction of the resultant vector. Make sure you keep the original vectors the same direction and the same length. Add them tip-to-tail. Make sure your resultant vector has an arrowhead on it pointing from start to finish.

(a) $A+B$

(b) $A+C$

(c) $C+D$

(d) $B+C$

(e) $B+D$

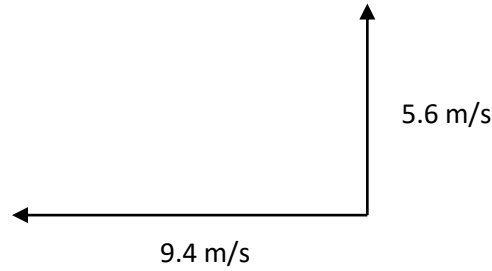
(f) $D+A$

(g) $E+D$

(h) $A+E$

(i) $C+E$

1. Two velocity vectors are shown in the following diagram. Magnitudes of the vectors are shown.
- a) Using your ruler, determine the scale used for this diagram.



- b) Using your ruler and protractor, construct a vector that represents the resultant velocity of vectors A and B.
- c) Determine the magnitude and direction of the resultant velocity.
2. A hiker walks 5 miles North and then turns and walks 3 miles East. How far is the hiker from her starting position? Which direction on the compass did she walk?
3. A bird flies with a velocity of 2.0 m/s North and encounters a wind that blows 8.0 m/s West. What is the resultant velocity of the bird? (recall that velocity would have both speed and a direction)
4. A boat is going straight across a river at 4.0 m/s East. The river's velocity downstream is 2.0 m/s South. What is the resultant velocity of the boat?