5. A plane flies with a velocity of 52 m/s east through a 12 m/s crosswind blowing the plane south. Find the magnitude and direction of the resultant velocity. Show the vectors and math.
    (1 cm = 10 m/s)

6. A hiker walk 25 km west and then 35 km south in a day. Find the magnitude and direction of the hiker's resultant displacement.
    (1 cm = 10 km)

7. A boat heads directly across a river (due west) with a velocity of 12 m/s. If the river flows at 6 m/s (due south), find the magnitude and direction of the boat's resultant velocity.
    (1 cm = 5 m/s)

8. A plane intends to fly north with a speed of 250 m/s through a crosswind of 50 m/s coming from the east.
    (1 cm = 25 m/s)

    a. Which direction should the pilot go to reach his destination up north?

    b. What is the plane's resultant speed?

1. Two people are pushing a disabled car. One exerts a force of 200 N east, the other force of 150 N east. What is the net force exerted on the car. Show the vectors and math.
   (1 cm = 20 N)

2. Two soccer players kick a ball simultaneously from opposite sides. Red #3 kicks with 50 N of force east while Blue #5 with 70 N of force west. What is the net force on the ball? Show the vectors and math.
   (1 cm = 10 N)

3. An airplane flies due west at 100 m/s through a 30 m/s crosswind blowing from north to south. Determine the resultant velocity of the airplane. Show the vectors and math.
   (1 cm = 20 m/s)

4. A mountain climber establishes a Base Camp and two intermediate camps, A and B. Camp A is 11,200 m east of and 3200 m north of base camp. Camp B is 8400 m east of and 1700 m higher than Camp A. Determine the displacement between Base Camp and Camp B. Show the vectors and math.
   (1 cm = 1000 m)