PreAP: due Tues, Sept 20 (Assigned: Fri, Sept 16)
Reg: due Wed., Sept 21 (Assigned: Mon., Sept 19)

Vectors 3

1. A person walks 40 meters south, 10 meters west, 5 meters north, then 2 meters east. Find the magnitude and direction of their final position in relation to their starting point.

2. Add these two vectors together: V_1= 35 m at 45^o N of E; V_2 = 20 m at 30^o N of E.

3. Add these two vectors together: V_1 = 5 m/s at 50^o N of E. V_2 = 20m/s at 70^o S of E.

4. A hockey puck slides 3 m/s on the ice rink for 4 seconds. Find the vertical component of the hockey puck's velocity.

5. How fast must a truck travel to stay beneath a plane that is moving 105 km/h at an angle of 25^o to the ground.

A plane flies 40 mph at 40^o north of east for 1.5 hours. How far north did it go?

6. Find the total distance the plane travel.

7. Find the northern component the plane traveled.

8. A car drives west of north at 60^o. The car is going 60 mph for 1.2 hours. Find how far west it went.

9. Make balanced ionic compounds from the following
   A) $Mg^{2+}O^{2-}$ B) $Na^{1+}S^{2-}$ C) $Al^{3+}O^{2-}$