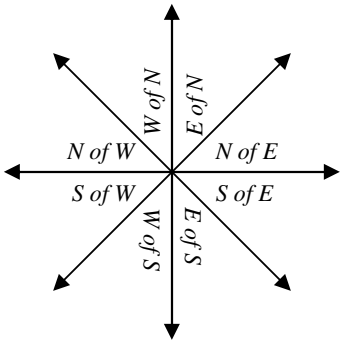
Due 9/27



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.

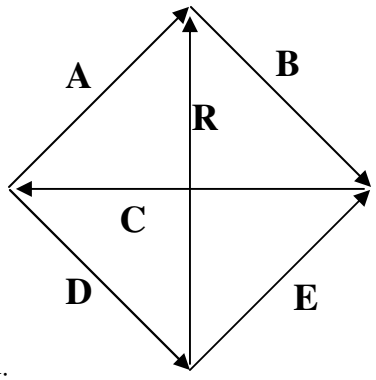
2. How fast must a truck travel to stay beneath a plane that is moving 105 km/h at an angle of 25^o to the ground.

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

4. 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.

5. Add the following vectors: V_1 = 15 m/s at 50^o N of E. V_2 = 20m/s at 70^o S of E. V_3 = 6 m/s N.

6. A rocket is fired at 35º to the horizontal. What is its altitude after 15 seconds if its acceleration is 18 m/s^2?



7. Give three ways to make R.

8. Devious and Bubba-hungry, Grak the mosquito is trying to make its way into a Walmart for an afternoon snack. Unfortunately, the Walmart has a fan at the door. If Grak flies at 10 cm/sec straight ahead and the stream of air is going 12 cm/sec to the right:
   A) how fast and at what direction will Grak be flying inside the air stream?

   B) how long will it take Grak to transverse the 85 cm air stream?

   C) how far off course will Grak be taken by the air?