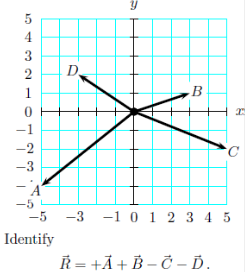
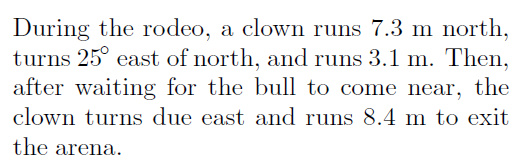
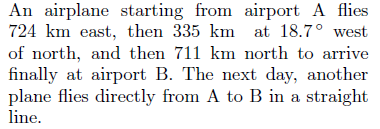
1. A small plane travels at a steady 245 m/s in still air. It travels directly south across an unaccounted easterly wind that has a constant velocity of 60 m/s.
   1. Draw the velocity vectors representing the plane’s velocity, the wind’s velocity, and the resultant velocity of the plane relative to the ground.
   2. Based on the vector diagram in part A, determine the magnitude and direction of resultant velocity of the plane.
   3. After 30 minutes of travel, how far off to the east is the plane diverted from its intended course?
2. A train leaves a station. A man on the train is walking left at 0.5 m/s relative to the train that is traveling to the right at 10 m/s. A bird overhead is traveling over head to the left at 2 m/s. An observer sits on a bench and watches the train from the station.
   1. What is the train’s velocity relative to the observer?
   2. What is the observer’s velocity relative to the train?
   3. What is the man’s velocity in relation to the observer?
   4. What is the observer’s velocity relative to the man?
   5. What is the bird’s velocity relative to the man?
   6. What is the man’s velocity relative to the bird?
   7. try other combinations for funzies
3. A block slides down a frictionless ramp from rest inclined at an angle of 35 degrees from the horizontal. Determine the displacement of the block if it slides for 2.5 seconds down the ramp.
4. Draw the vector addition of
   1. Vector B and Vector D
   2. Vector D and negative Vector A
   3. Vector C and negative Vector 2B
   4. Vector 0.5A and negative Vector D





Determine the magnitude and direction of the displacement vector of the clown.

6.

Determine the magnitude and direction of the displacement of the plane.