

Name _____

Activity – Applications with Bearings and Vectors

1. An airplane with an air speed (speed in still air) of 178 m.p.h. is headed due North. If a west wind of 20 mph is blowing, determine the direction travelled by the plane and its ground speed (actual speed with respect to the ground).
2. An airplane with a cruising speed of 185 mph in still air is headed S10 W. Determine the speed of a west wind that makes the plane travel due South.
3. The bearing from Front Royal to Culpeper is S18 E. The bearing from Culpeper to Winchester is N11 W. If the distance from Winchester to Culpeper is 63 miles and the distance from Culpeper to Front Royal is 44 miles, determine the distance from Winchester to Front Royal and the bearing from Front Royal to Winchester.
4. Pottstown, PA is 47 miles due West of Trenton, NJ. A helicopter leaves Trenton at noon and travels 50 mph in the direction N72 W. When will it be closest to Pottstown?
5. A pilot wants to fly 300 miles due North in 2 hours. If a wind is blowing at 17.5 mph from due East, in what direction should he head his plane and at what air speed should he fly in order to arrive at his destination on time?