Accel. PreCalculus Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Vector Applications Practice Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_\_

1. Suppose a person walks 120 ft. on a true bearing of 50. They then turn and walk 80 ft. due east. How far from their starting position have they walked and at what bearing?
2. Suppose a person walks 2 km. at a true bearing of 240and then walks 2 km directly east. How far and at what bearing is the person from their starting position?
3. An airplane is flying with an airspeed of 310 knots on a true bearing of 50. If a 78 knot wind is blowing at a true bearing of 125, determine the speed and direction of the plane relative to the ground.
4. An airplane is flying with an airspeed of 475 mph on a bearing of 70. If an 80 mph wind is blowing at a bearing of 120, determine the velocity and direction of the plane relative to the ground.
5. A runner’s resultant velocity is 8 mph due west running with a wind of 3 mph at a bearing of 242. What is the runner’s speed without the effect of the wind?
6. A pilot needs to plot a course that will result in a velocity of 500 mph in a direction of due west. If the wind is blowing 100 mph at a bearing of 168, find the direction and speed the pilot should set to achieve this resultant.
7. An airplane flying on a bearing of 148with an airspeed of 540 mph. Because of the wind, its groundspeed and direction are 500 mph at a bearing of 140. Find the direction and speed of the wind.