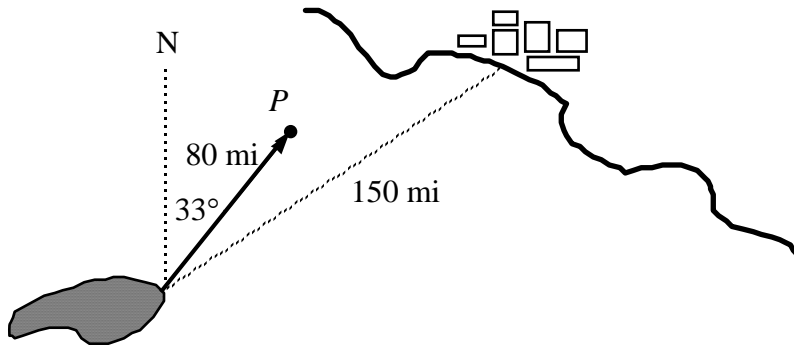


1. A cruise ship sets a course $N47^\circ E$ from an island to a port on the mainland, which is 150 miles away. After moving through strong currents, the ship is off course at a position P that is $N33^\circ E$ and 80 miles from the island. Approximately how far is the ship from the port? In what direction should the ship head to correct its course?



2. A plane flies at a constant ground speed of 450 miles per hour due east, and encounters a 50 mile-per-hour wind from the northwest. Find the airspeed and heading that will allow the plane to maintain its ground speed and eastward direction.