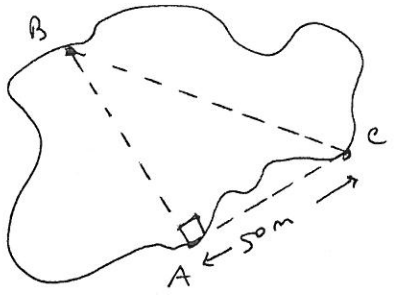
Pre-Calculus **HW#4.8-2** **Name:**

1. A ship sights a lighthouse directly to the south. A second ship, 9 miles east of the first ship, also sights the lighthouse. The bearing from the second ship to the lighthouse is S 34° W. How far, to the nearest tenth, is the first ship from the lighthouse?

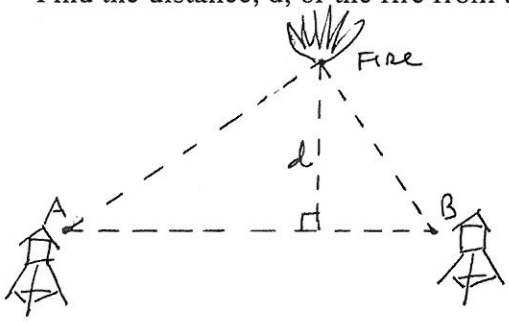
2. You leave your house and run 2 miles due west followed by 1.5 miles due north. At that time, what is your bearing from your house?

3. A jet leaves a runway whose bearing is N 35° E from the control tower. After flying 5 miles, the jet turns 90° and flies on a bearing of S 55° E for 7 miles. At that time, what is the bearing of the jet from the control tower?

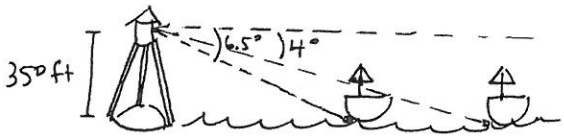
4. A surveyor wishes to find the distance across a swamp. The bearing from A to B is N 32° W. The surveyor walks 50 m from A to C, and a C the bearing to B is N 68° W. Find the bearing from A to C and the distance from A to B.



5. Two fire towers are 30 km apart, tower A being due west of tower B. A fire is spotted from the towers, and the bearings from A and B are N 76° E and N 56° W respectively. Find the distance, d, of the fire from the line segment AB.



6. An observer in a lighthouse 350 feet above sea level sights two ships offshore. The angles of depression to the ships are 4° and 6.5°. How far apart are the ships?



7. Find the length of the flat side of a hexagonal nut if the distance across it is 12 mm.