Name:_____ Date:_____

Trigonometry Honors

1.8 Word Problems

1. The bearing of a buoy from a ship 8.7 miles away is N64°E. The ship is headed du north, and the navigator plans to change course when the buoy has bearing of S26°E. How much farther will the ship travel before a change of course is needed?

2. A pilot of a San Antonio-to-Houston express plane traveling on a course of N79°E sights the Austin Airport off the left side of the plane. His line of sight forms a right angle with the plane's line of travel. Find the bearing of the Austin Airport from the airplane.

3. After the plane in problem #2 travels 45 minutes (from the first sighting of the airpoirt) at 180 mi/hr along the same course, the airport has a new bearing of N80°W. How far is the plane from the airport?

4. The navigator of a ship on a N44°E course sights a buoy with a bearing of S46°E. After the ship sails 15 km along the same course, the navigator sights the same buoy w a bearing S12°E. Find the distance between the ship and the buoy at the time of each sighting.

5. The angle of depression from a helicopter to its landing port is 64°. If the altitude c the helicopter is 1600 meters, find the direct distance from the helicopter to the landin port.

Answers

1. 19.85 miles
2. N11°W
3. 144.6 miles
4. 1st sighting: 22.2 km
   2nd sighting: 26.8 km
5. 1780.16 meters