**3.4 Applied Problems**

Two ships leave a port at the same time. One sails at 17km /hr on a bearing of N65°W. The other sails at 21km/hr on a bearing of N27°W. How far apart are the two ships after 2 hours?

In triangle ABC, AD is the altitude from A to BC. Angle B = 48°, angle C = 32°, and side BC = 12.8 m. Determine the length of AD.

A surveyor in an airplane observes that the angle of depression to two points (A and B) on the opposite shores of a lake are 32° and 45° respectively. The distance from the plane to point A is 9750m. What is the width of the lake, to the nearest meter, between points A and B?