

Extra Practice:

Law of Sines, Law of Cosines, and Bearings

1. A boat sails a distance of 40 km from dock A at a bearing of $S40^{\circ}E$ to dock B. It then sails on a bearing of $S75^{\circ}W$ for 80 km to dock C.
 - a. Sketch a neat, labeled diagram for this situation.
 - b. Calculate the straight line distance, to the nearest tenth of a km, that the boat would have to travel to get from dock C back to dock A. (*answer: 72.8 km*)
 - c. Determine the boat's bearing from dock C for this return trip. (*answer: $N44.8^{\circ}E$*)

2. Caroline leaves town A and walks 5 km at a bearing of $N30^{\circ}E$. Her friend Erica leaves from the same point, traveling 9 km bearing $S45^{\circ}E$.
 - a. Sketch a neat, labeled diagram for this situation.
 - b. Determine the distance, to the nearest tenth of a km, between the two friends. (*answer: 11.4 km*)
 - c. If Caroline decides to walk this distance to meet back up with Erica, in what direction (bearing) would she have to travel? (*answer: $S19.7^{\circ}E$*)