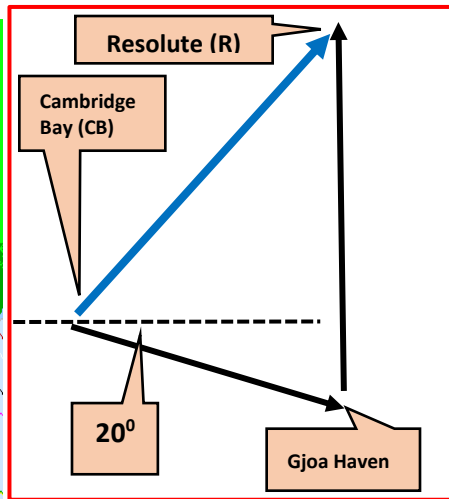
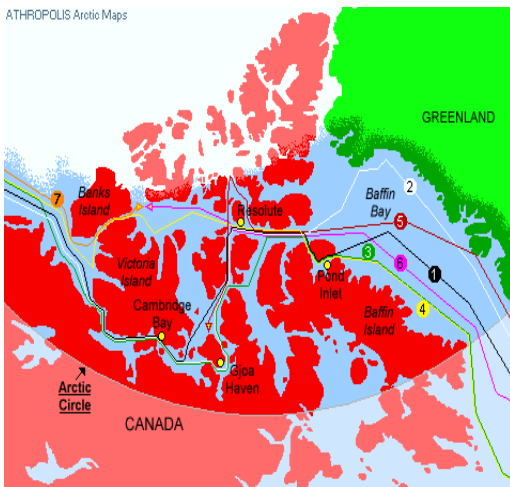


# VECTOR ADDITION

Unit 2 Dr. John P. Cise, professor of Physics, Austin Com. College, 1212 Rio Grande St., Austin Tx. 78701 [ipcise@austinctc.edu](mailto:ipcise@austinctc.edu) & New York Times, September 14, 2016 by Ian Austen

## Tip Leads to Vanished Arctic Exploration Ship After 168 Years



**INTRODUCTION:** Cambridge bay To Gjoa Haven is 250 miles @  $20^\circ$  south of east , Gjoa haven to Resolute is due north 450 miles.

**QUESTION:** Find Resultant vector from CB to R? Needed are both magnitude and direction.

**ANSWERS:** 433.64 miles @  $57.2^\circ$  North of East

OTTAWA — To solve a 168-year-old [Arctic](#) mystery, the Canadian government had spared no expense. Officials over the last several years used satellite and underwater imaging and deployed crews from the [navy](#) and [coast guard](#) along with scientists and researchers to search for the **Terror, a British ship that vanished along with 129 crew members while trying to map the Northwest Passage.** But in the end it was a **tip from a local Inuit hunter** that led to the apparent discovery of the Terror. The discovery, made on Sept. 3, comes two years after the Erebus, the other ship in the disastrous expedition led by the British explorer Sir John Franklin, **was found.** The location of the Terror, appropriately in the middle of the coincidentally named Terror Bay, matched longstanding Inuit oral accounts of Franklin's fate rather than the assumptions of modern researchers. "The Inuits' oral traditional knowledge around Franklin has been the only authoritative account," said John Geiger, the chief executive of the [Royal Canadian Geographical Society](#). Mr. Geiger, the author of several books about the doomed expedition, said **underwater images of the remarkably intact ship and the paucity of other 19th century shipwrecks in the area make it all but certain that the Terror has been found.** When the Martin Bergmann was near Terror Bay while heading to a rendezvous with naval and coast guard ships involved in the search, Mr. Kogvik, who lives in Gjoa Haven, Nunavut, brought up his earlier sighting. The Bergmann then headed for anchor in the bay. Adrian Schimnowski, the chief executive of the Arctic Research Foundation, said the Martin Bergmann launched a boat in an initial search of the bay, which is not charted, but found no sign of the Terror. But when the research ship pulled anchor to resume its initial course, "We sailed right over a shipwreck and saw it on our sonar." If the Martin Bergmann's route had varied by as little as 600 feet, he said, the Terror's location would still be a mystery. "It sent shivers down my spine," Mr. Schimnowski said from Gjoa Haven. "It's like finding a needle in a haystack, and this is a very, very big haystack." **Before being put on Arctic mapping duty, the Terror was one of the British naval ships involved in the attack on Fort McHenry in Baltimore during the War of 1812, Mr. Geiger said** The disappearance of the Franklin expedition — the ships were apparently trapped in ice — and the 32 search missions, some of which included Americans, attempting to rescue the crews were [followed closely](#) in the 19th century.