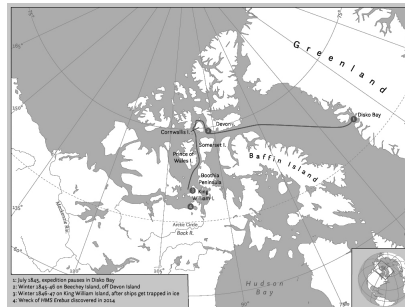# Problem of the Week
Problem B and Solution
A Terror on Ice

Problem

In 1845, Sir John Franklin left England on HMS Erebus, along with HMS Terror, in search of a northwest passage to India. He traveled approximately 12 000 km before getting stuck in the ice near King William Island, coming within about 300 km of Umingmaktok.

a) What fraction of the distance he sailed in 1845 was the remaining distance to Umingmaktok (which would have revealed a complete northwest passage)?

b) According to a scrawled note, the HMS Erebus was last seen by a European on April 22, 1848. The wreck of the ship was located on September 1, 2014.

   How many years, months and days passed between these two sightings?

c) The HMS Terror was originally launched on June 19, 1813, and its wreck was discovered in 2016. It participated in the War of 1812, and participated in a further Antarctic Expedition, from 1839 to 1843.

   How old, in years, is the HMS Terror now?

(wikimedia.commons)

Solution

a) Since he sailed 12 000 km in 1845 and still had 300 km to go to Umingmaktok, the remaining distance was $\frac{300}{12000} = \frac{1}{40}$ of his trip.

b) The number of years is $2014 - 1848 = 166$ years. The number of months from May to August is 4 months. The number of days is $8 + 1 = 9$ days. Thus a total of 166 years, 4 months, and 9 days passed between the two sightings.

c) The age of the terror, in years as of June 19, 2019, is $2019 - 1813 = 206$ years.