# Changing Perspectives Review Worksheet
# Navigate the Coast Math Activity

Name: _____

## Instructions

Using the navigation measurements, calculate the *HMS Discovery*'s coordinates as it travelled along the Pacific Northwest Coast during the summer of 1794.

## Latitude

1) Calculate how many degrees (°) of latitude the ship is north of the Equator. The following sextant measurements show the angle of the North Star relative to the horizon.

   (Remember, the North Star is at 90 degrees to the horizon in the North Pole. At the Equator, the North Star is 0 degrees to the horizon).

| Day | Sextant measurement | Latitude (°) |
|---|---|---|
| July 30, 1794 | 56.5 degrees | |
| August 24, 1794 | 55.5 degrees | |
| September 1, 1794 | 50.75 degrees | |
| September 2, 1794 | 49.5 degrees | |

2) Is the ship travelling north or south? _____

## Longitude

1) How many degrees (°) does the Earth rotate every hour?

2) How many degrees does the Earth rotate every minute?

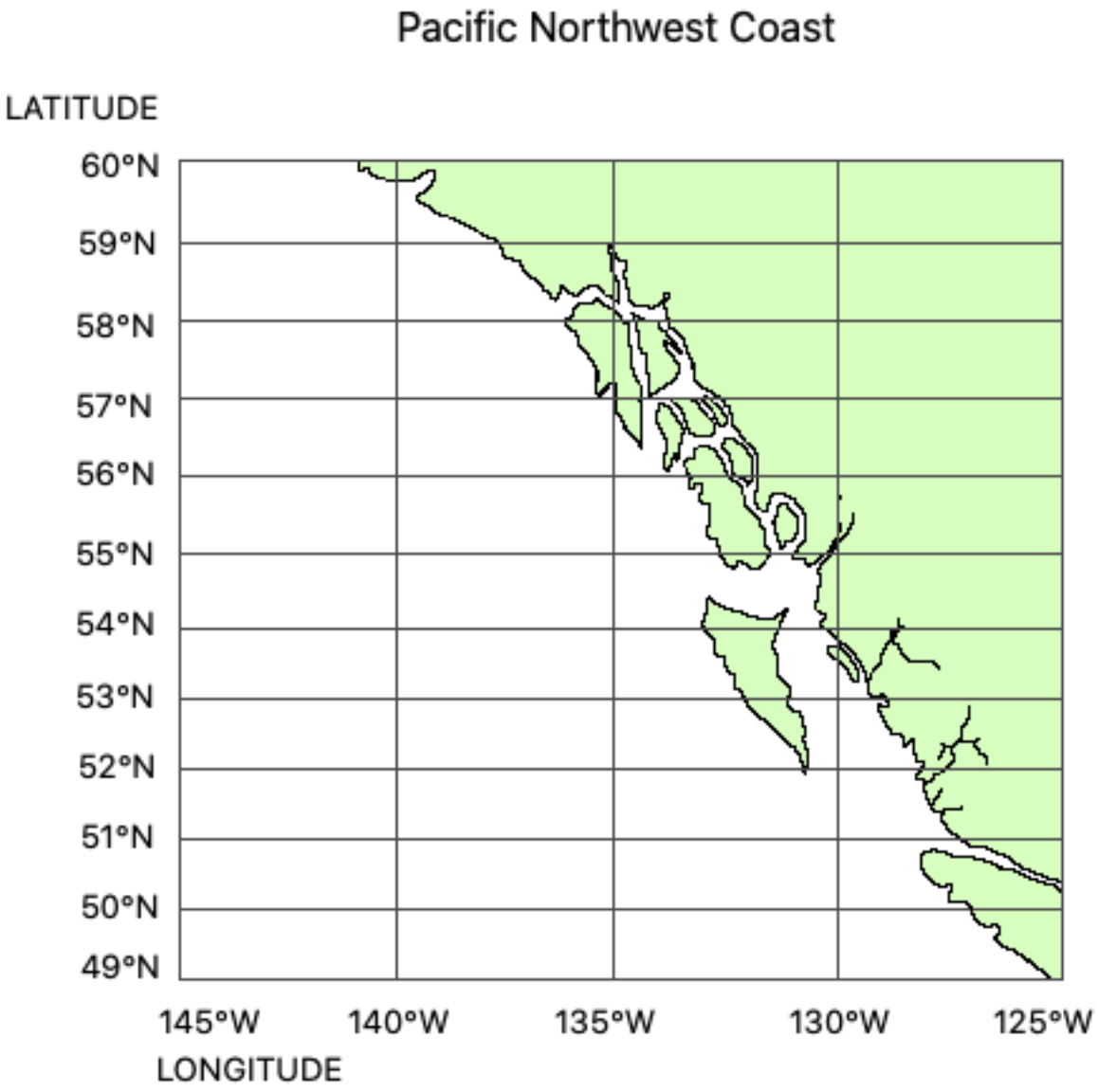
3) How long does it take for the Earth to rotate 1°?

4) A chronometer aboard the *HMS Discovery* kept track of the time back in Greenwich, England located at 0° longitude. Using the chronometer, calculate the ship's position for the following readings:

| **Day** | **When it is 12:00pm where the ship is, the chronometer reads the time in Greenwich is:** | **Longitude (°)** |
|---|---|---|
| July 30, 1794 | 9:00 PM | |
| August 24, 1794 | 8:56 PM | |
| September 1, 1794 | 8:36 PM | |
| September 2, 1794 | 8:24 PM | |

## Chart the Coordinates

Using the longitude and latitude coordinates you have calculated, mark the ship's location for each of the four days.



## Extra Problem Solving Question:

Captain Vancouver's expedition sailed far north in the spring and summer of 1794 to chart the Pacific Northwest Coast. According to the maps they made, on June 29, 1794, the ship's coordinates were 59.75°N latitude and 142°W longitude. When it was noon local time on the ship, what time was it in Greenwich?