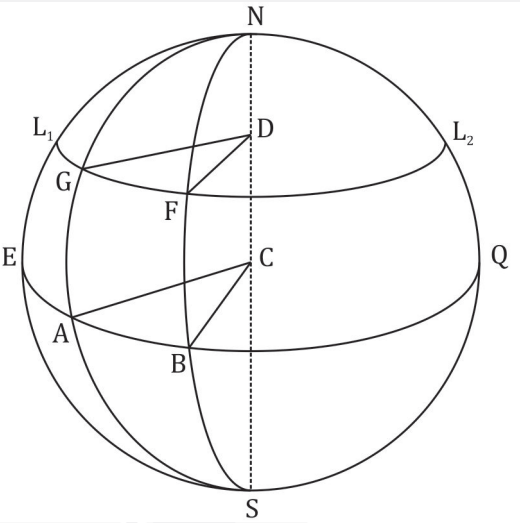
Parallel Sailing

The Parallel Sailing method is used to find the distance between two positions on the same latitude. The distance measured along a parallel of latitude between any two meridians is called the **Departure** (Dep.).

$$\textbf{Dep.} = \textbf{D. Long.} \times \cos(\textbf{Lat.})$$



C	Centre of the earth	L_1L_2	Parallel of latitude
EQ	Equator	AB	Difference of longitude
NS	Earth's axis	GF	Departure

Example 1 Find the distance to steam between the two positions:

A: 35°20′N 15°31′W
B: 35°20′N 25°50′W

$$\text{D. Long.} = 25°50'\text{W} - 15°31'\text{W} = 10°19'\text{W} = 619'$$
$$\text{Dep.} = \text{D. Long.} \times \cos(\text{Lat.}) = 619' \times \cos 35°20' = 505'$$
$$\text{Distance} = 505 \text{ miles}$$

Example 2 A vessel steams along latitude 30° S. from longitude 171° W to longitude 178° E. Find the distance.

In this case, the vessel is crossing meridian 180°.

$$\text{D. Long.} = (180° - 171°\text{W}) + (180° - 178°\text{E}) = 11° = 660'$$
$$\text{Dep.} = \text{D. Long.} \times \cos(\text{Lat.}) = 660' \times \cos 30° = 571.6'$$
$$\text{Distance} = 571.6 \text{ miles}$$