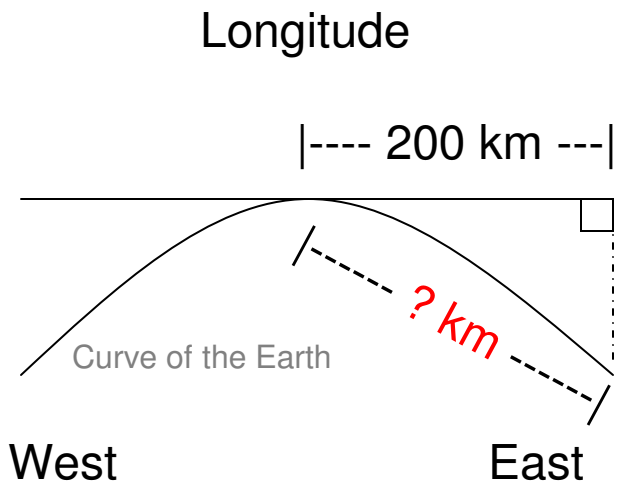
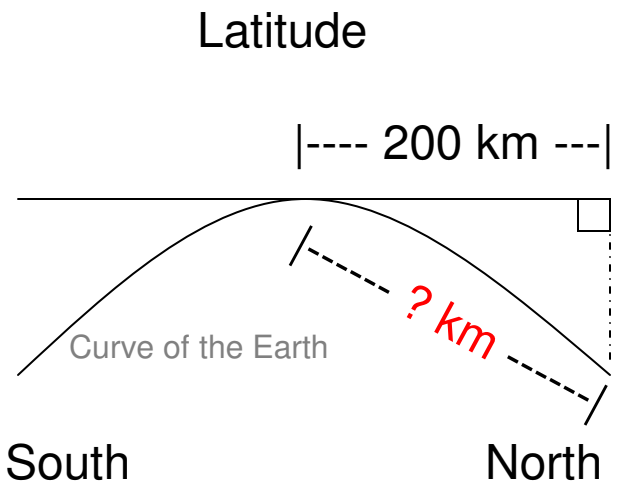
Problem: What we need are the lengths of the curves highlighted in red below.





Given: A single point a specific latitude and longitude with sea-level altitude. We have operations that perform the following:

* Convert LLA to WGS84 xyz
* Convert WGS84 xyz to LLA
* Calculate the length of a longitude degree in km at a specific latitude

Constants:

1^{o} Latitude = 111120 meters

Earth Major = 6378137.0 meters

Earth Minor = 6356752.3142 meters

Flattening; $f = (a - b) / a$

Eccentricity; $e^2 = (a^2 - b^2) / a^2$