

12.215 Homework #1.

Due Wednesday, Oct 4, 2006.

(1) For latitudes of 30 degrees N and 60 degrees N, determine the difference between the great circle path and small circle path for sites at the same latitude. Plot results as a function of longitude difference between 0 and 180 degrees. (20 points)

(2) For sites at 30 degrees latitude and separated by 90 degrees of longitude, compute the azimuths to be used along the greater circle path between the two sites. Show results graphically. What is the azimuth at the mid-point between the two locations? (20 points)

(3) The Garmin factory is located at 38.95005 N, 94.74612 W, and it is supposed to be 2029 km at a bearing from True North of 267 degrees, from N 42.26615, 71.08850 W. Compute what you think the distance and bearing should be. How well do your results agree with Garmin. (20 points)