Lab 4A: Reading the Topographic Map of the Duluth Quadrangle (12 pts)

1) Describe the TRS location of UMD T____, R_____, Sec______, _____ 1/4 of _______ 1/4 (0.5 pts)

2) Go outside and determine the UTM coordinates (in NAD 27) of your location with one of the two GPS units. ______________N ______________E, is this consistent with the map?_______(0.5 pts)

3) 11,000 years ago, the shoreline of Glacial Lake Duluth stood at 1150' above sea level. Determine from the elevation of these features whether the following locations were under (U) or above (A) lake level. (2 pts)

UMD_____       St. Scholastica ______   Washburn School (T50N, R14W, Sec11)_______
Hartley Pond (T50N, R14W, Sec 2 SW)_____ Central H.S. (T50N, R14W, Sec 21)______
East H.S. (T50N, R14W, Sec 13)______ Radio Towers (T50N, R14W, Sec 28)_______

4) Determine the elevations (within 10’) and TRS of the following intersections (1.5 pts)

Mesaba Ave & Hwy 194*  Elev._______; T___ N, R____ W, Sec ____, ____1/4 of____ 1/4
(*Central Entrance)
17th Ave E & 4th St     Elev._______; T___ N, R____ W, Sec ____, ____1/4 of____ 1/4
Howard Gnesen & Norton  Elev._______; T___ N, R____ W, Sec ____, ____1/4 of____ 1/4

5) What is the highest elevation of Skyline Parkway along Hawk Ridge (T50N, R13W, Sec 6 and T51N, R13W, Sec 32)?_____________ (0.5 pts)

6) What is the elevation drop of Chester Creek between Kenwood Ave and Superior St. _____ ft. (0.5 pts)

7) If you were standing at the NE corner of Kenwood School (T50N, R14W, Sec. 10) and you wanted to hike a straight line to the Hartley Pond Dam (T50N, R14W, Sec. 2 SW) (2 pts)
   a) what bearing (or compass azimuth) would you take? - _________
   b) how far would you have to walk (in meters)? __________
   c) what extremes in elevation would you experience? Highest ________ Lowest ________
   c) what time of year would you prefer to make the trek and why? ____________________

8) What cultural feature lies at UTM coordinates 5189500N/568550E? ________________ (0.5 pts)

9) On the graph paper provided, draw a topographic profile along the T50-51N township line from the SW corner of Sec. 35 to the SE corner of Sec. 31. Plot this profile first with no vertical exaggeration (same scale as on map).
   Then lower on the sheet, plot a second profile with a vertical exaggeration of 5x. (4 pts)