# CIVL 1112 – Assignment #10

**Name:** _____

**Objective**

The purpose of this assignment is twofold: (1) develop a spreadsheet that computes the balanced latitudes and departures of a traverse given the bearings and distances of each side, and (2) compute the bearings of a traverse based on survey data and a reference bearing.

Write a spreadsheet that computes underlined corrected latitudes and departures for a traverse where angles are given by their underlined bearings. The figures below show a typical spreadsheet layout for this problem. Your spreadsheet may look different if it provides the same input and parameter definitions. Note that the directions N/S and E/W are in separate cells.  Also, the values for degrees and minutes are in separate cells. Compute the latitudes and departures, closure error, precision of the traverse, latitude and departure corrections, and balanced latitudes and departures.

**Part 1.** Compute the corrected latitudes and departures for the data displayed in the example shown on the class website.

**Part 2.** Use your traverse spreadsheet to compute the corrected and balanced latitudes and departures for the traverse shown below.
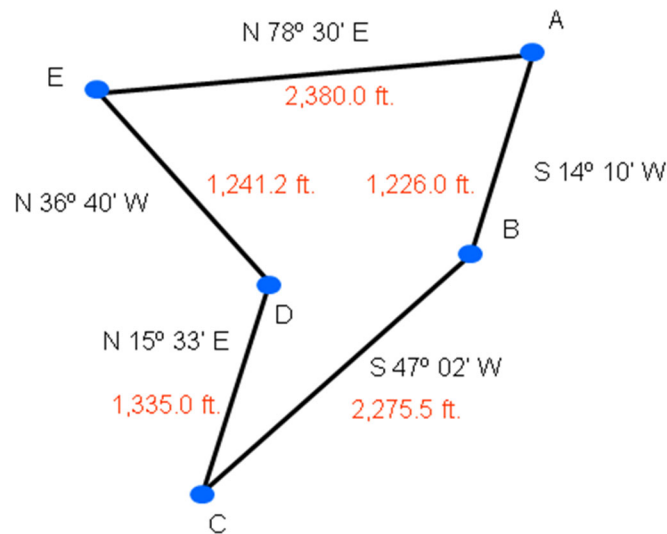


**Part 3.** A four-sided closed field traverse has the following distances in feet: AB = 636.45, BC = 654.49, CD = 382.85, and DA = 512.77. The interior angles are as follows (measured as angles to the right): A = 81 ° 23', B = 72 ° 33', C = 89 ° 40', and D = 116 ° 24'. The bearing of AB is S 33º 19' W, and the side BC is in the SE quadrant. Determine the bearings of each side and then use your traverse spreadsheet to compute the corrected and balanced latitudes and departures for the traverse. Show all work for determining the bearing of each side.

**Part 4.** Use the information in the course syllabus to compute your current grade in the class.

**Part 5.** Read Chapters 17 and 18 in "*A Mind for Numbers*" by Barbara Oakley.