Measuring Elevation Profiles using a Laser Level

Name _____

Description:

Land measurement is a useful skill in agriculture used for construction, farming, and grading. In this lab you will use a level to measure elevations, a tape to measure distance, and a GPS to measure location.

Materials:

Graph paper (10 sq/inch)

Tools:

Laser Level and Direct Elevation Rod

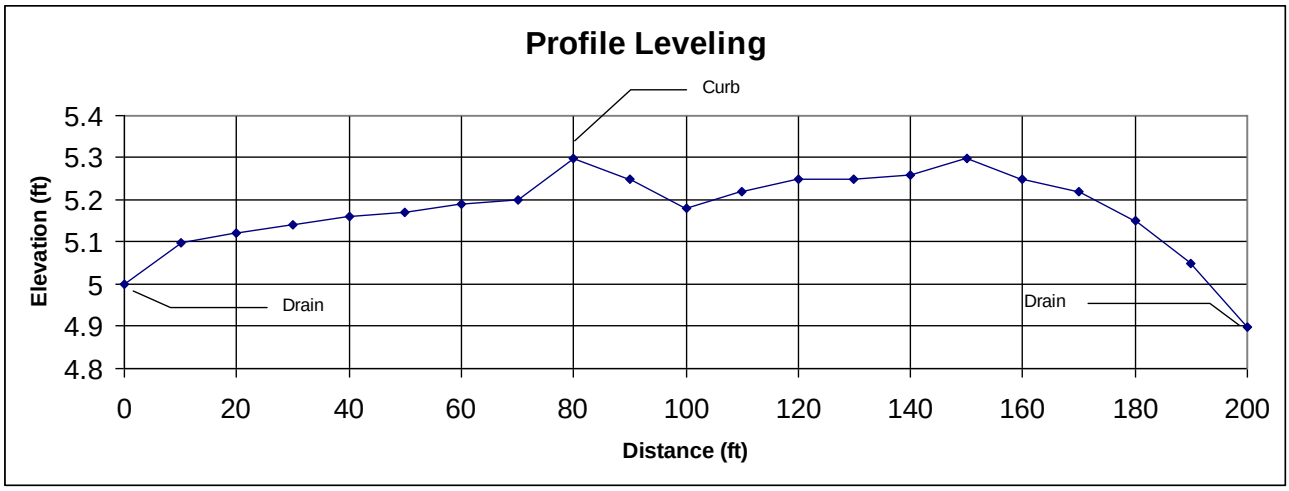
Tape

Surveyor's arrows (pins)

In this exercise you will measure elevations using a laser level then graph the profile.

1. Layout the profile course as a team (same course as the auto level). Rotate the using the rod during your elevation measurements.
2. Setup up the laser level mid-way between the ends of the profile
3. Using the tape, locate, mark, and measure 20-25 points between the ends of the profile. Record these distances in the table below.
4. Place the rod on the Benchmark (BM) and adjust the elevation on the rod to an even foot (ex. 5'). Record this elevation on your data sheet.
5. Measure the elevations of each of the remaining points and enter on your data sheet.
6. Individually, use graph paper plot the elevations. Horizontal scale will be about 1"=20', vertical scale should be about 2"=1'. Label the points and the graph. (See example).
7. Label the high point(s).
8. Turn in your **data sheet and graph.**

Sample Profile Graph



Laser Level Profile Leveling Data Sheet

Station Number	Distance (ft)	Elevation (ft)	Comments / Location
1.			Benchmark
2.			
3.			
4.			
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