Each of the questions below requires performing measurements with the transit level. When recording your answers below, make sure to show work and **record all measured values (!!!).** For example, if you are measuring a change in elevation you need to have recorded the level’s viewing height, the height which the level views through the scope, and the difference.

1. For the ramp outside our classroom:
   1. What is the change in elevation this ramp? **(include all measured values)**
   2. What is the grade of this ramp? Is this grade within the legal limit for wheelchair accessibility?
2. If the horticulture classrooms were to have a rampant flooding issue and started spewing out water uncontrollably and relentlessly, how many feet of water would the flood need to be in order to reach my classroom? **(include all measured values and explain your rationale)**
3. For the football field:
   1. From the perspective of having the higher ground, is there one end zone which provides a strategic advantage? **(include all measured values)**
   2. Assuming one end zone has a greater elevation than the other, which end zone would you think would be preferred?
4. An important part of a building’s construction is to lay a foundation. When laying a foundation, construction workers create a level surface (sometimes by creating a large concrete slab) upon which the rest of the building will be built upon. Sometimes due to mistakes in construction or due to buildings “sinking” over time, however, buildings’ foundations become un-level or “tilted.”
   1. Why do you think it is important for a building to have a level foundation?
   2. Which part(s) of the school do you think are most likely to not be level? Why?
   3. Find a hallway which you think is likely to not be level and determine whether or not it is level **(include all measured values and explain rationale)**.

**Fun fact about foundations!**

The Texas Capitol building was intentionally built to be a couple feet taller than the US capitol building (because Texas). But, because the US capitol building has a concrete foundation and Texas’s is dirt, the US capitol has been catching up some claim is taller [citation needed]

**Surveying Adventure Part II:**

Create a simple sketch using at least 5 points and then connecting these points with straight lines. Draw this sketch below then come up with the scale to enlarge this drawing so it is at least 20 feet in at least one dimension. Using accurate measurements of your sketch (think ruler and protractor) as well as your scale, recreate the enlarged version of your sketch on a field outside using flags and a string.

**Scale:**