





(30 pts) Approx. 1 days

For the second part of our unit, we'll look at some of the trickier tools in Autodesk. There are lots of tools for creating special shapes, but some other tools help define and inspect the various mathematical properties of the 3D object. The first thing we'll look at are geometric constraints; constraints limit the size and shape of objects to make them fit together in specific ways like exactly perpendicular, parallel, equal, or vertical. When we're done exploring various constraints, we'll look briefly at iProperties and see that Autodesk can calculate a lot of things for us about our 3D part.

1. **Autodesk Notes** – watch the *Geometric Constraints* and *Geometric Constraints Tutorial*. Start a page of notes (you can add to it with the iProperties information later). Make sure that your notes list different constraints that you see used, and that you end up using yourself. Take a full page of notes total for this part of the unit.
2. **Geometric Constraints Tutorial** – Download the “Geometric Constraint Practice” from the Part 2 section of our website. You can open this drawing in Autodesk and then choose “Sketch1 → Edit” from the browser to make the shapes editable.
3. With the Geometric Constraint Practice drawing open, use the geometric constraints to satisfy each drawing. In each case, the drawing needs to be adjusted using only one (1) of the geometric constraint buttons.
4. **Autodesk Notes** – watch the *iProperties* and *iProperties Tutorial* presentations. Add to your notes from before, and be sure to include details about what information the iProperties tool gives, as well as where that tool can be found!
5. **iProperties Tutorial** – Get the *iProperties Tutorial Assignment* and work through it. In there, you'll make a very basic part and then be able to use the iProperties tool to confirm that you built the part correctly. Use that tool to confirm you have the right volume, surface area, and other parameters.

Part 2: Tasks	4 points	3-2 points	1-0 points
 Notes on Geometric Constraints	+ You took a full page of notes on geometric constraints + Your notes include specific details about each of the geometric constraint tools!	- You did take a full page of notes - Your notes do not address specific tools	- Your notes are missing
 Geometric Constraints Tutorial	+ You completed the Geometric Constraints Tutorial + Your completed tutorial is saved on your jump drive	- You did not finish all of the tasks in the constraints tutorial - Your tasks are not completed correctly	- Your tutorial is incomplete or missing - Your tasks are not done correctly
 iProperties Tutorial	+ You completed the iProperties Tutorial + You build the iProperties Part + The necessary properties match between your part and the tutorial part	- You did not finish the iProperties Tutorial - Your iProperties Part is incorrect - Your properties don't match	- Your tutorial is incomplete or missing - Your part is missing - Your properties are not even close
 Take the Unit 5 Quiz	+ You took the Unit 5 Quiz by the due date + Your grade is based on the number you get correct	N/A	- You did not take the quiz by the due date

