Study points for the CSWA

USE OF CONSTRUCTION LINES

- A lot of the geometries in the test are a lot easier to generate if you make use of construction lines.
- These are typically centerlines
- These can be found in the pull down for the line tool when sketching
- They are not part of the sketch that is going to be excluded, so you can add as many as you like to help you build your sketch.

USE OF SKETCH RELATIONS

- This is an important aspect of how SOLIDWORKS makes sketches
- These include relationships such as
  - vertical or horizontal
  - parallel
  - tangent edge
  - etc.
- SOLIDWORKS will add automatically what it thinks you need. This is very helpful but may not be correct for what you need, especially in the CSWA test.
- You may find that to have all the dimensions that appear on the sketch and have the sketch not over define you will have to remove some of the automatic sketch relationships.
- Also, you may have to add sketch relationships so that the sketch maintains its properties as some other dimensions are changed during the test.

USE OF ADVANCED SKETCHING TOOLS

You should be able to use the following advanced sketching tools:

- Offset
- Convert entities
- Linear/circular sketch patterns

PARAMETRIC MODELING

Sometimes it is helpful to make sketch dimensions a function of existing dimensions for quick design changes later on. This is the basis of parametric modelling. This might be very helpful in the sketches that you are going to make in the test.

PROPERTIES OF THE SOLID

Once the solid model is built, it will have a number of basic properties of it. Especially once a material/density has been applied. The test can use these as an evaluation tool to see if your model is correct. So, you need to be able to determine these properties easily. These are all available under the evaluation tab. These properties include:

- find the volume of the solid model
- find the centre of mass
- find the moment of inertia

UNDER DEFINED SKETCHES

Fundamentally, there should never be any undefined lines in a sketch. This sketch should be completely black. The way the CSWA test is set up, if anything at all is undefined the answer will be wrong. So you will need to make sure that your sketches are fully defined.