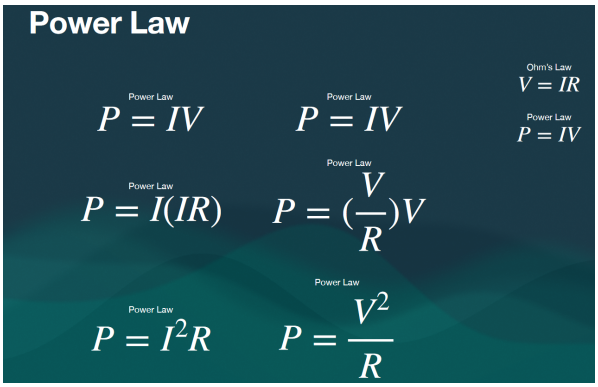
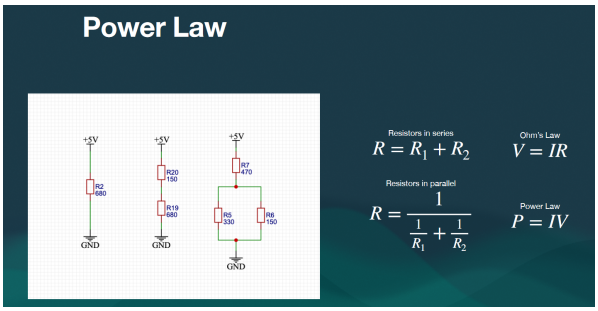
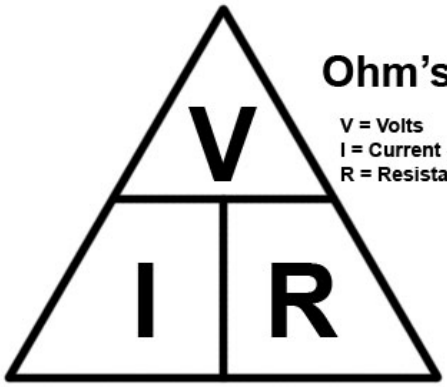
Workshop 4 - CAD 1 - Fusion 360

Friday October 18th

We started off this session with some revision, then we finalised our PCB boards before moving on to the next item.





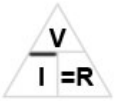


Ohm's Law

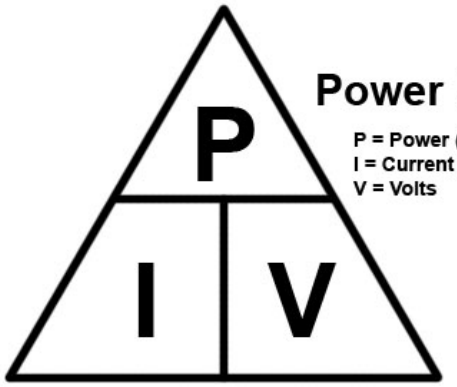
V = Volts
I = Current (in Amps)
R = Resistance (in Ohms)

$V = I \cdot R$ (volts = amps times ohms)

$I = \frac{V}{R}$ (amps = volts divided by ohms)

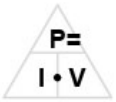


$R = \frac{V}{I}$ (ohms = volts divided by amps)



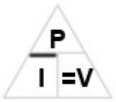
Power Law

P = Power (in Watts)
I = Current (in Amps)
V = Volts



$P = I \cdot V$ (watts = amps times volts)

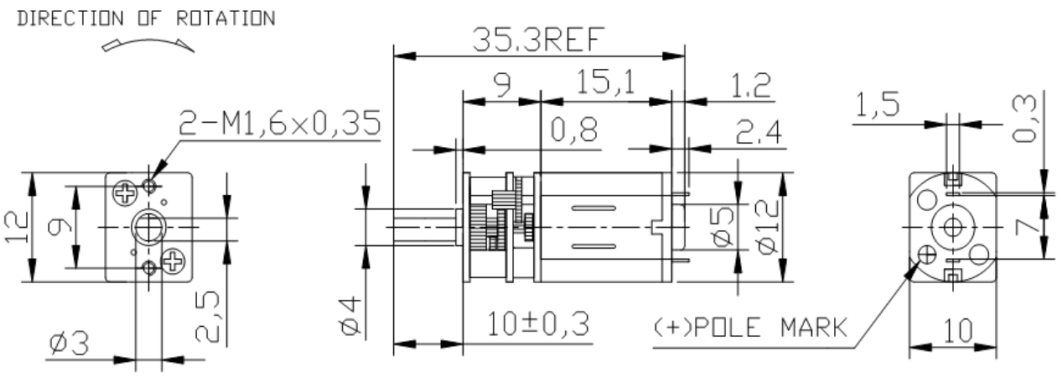
$I = \frac{P}{V}$ (amps = watts divided by volts)

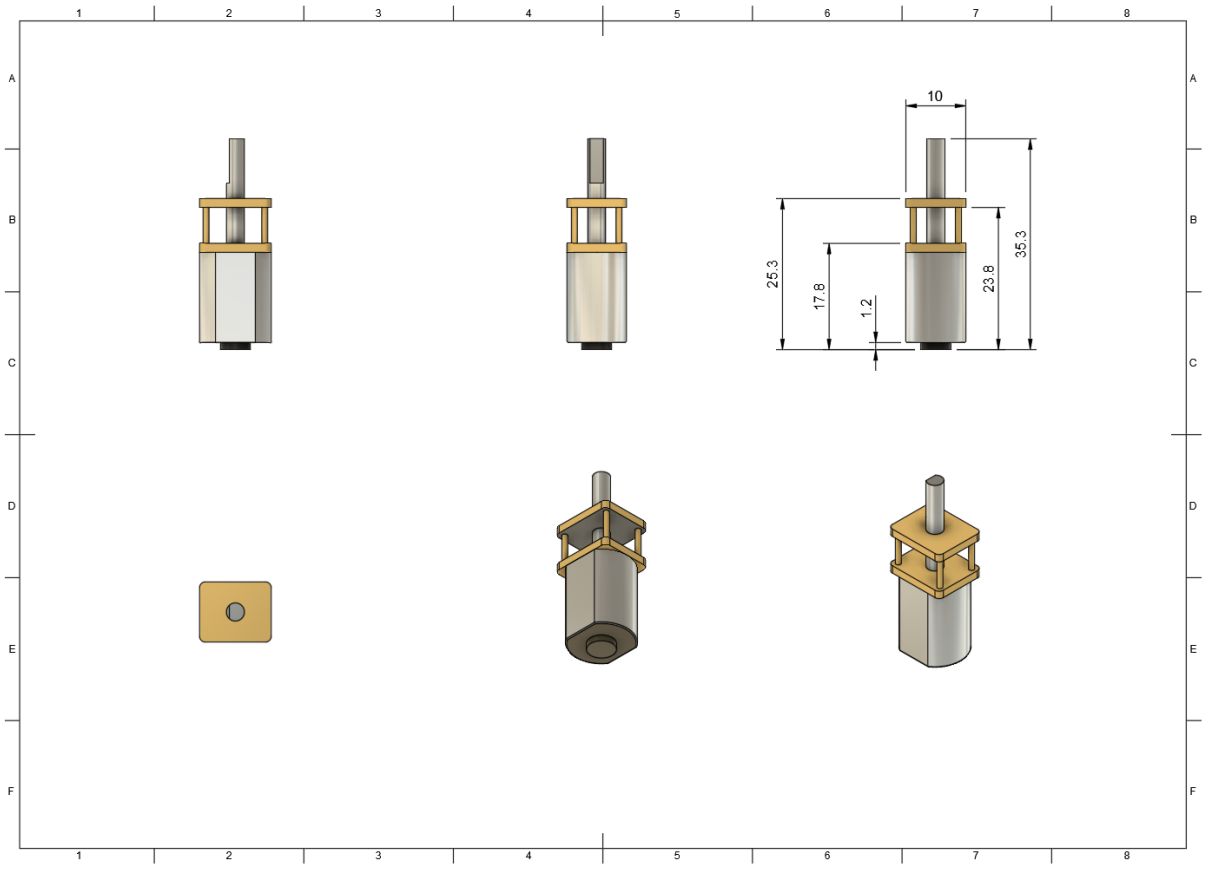


$V = \frac{P}{I}$ (volts = watts divided by amps)

Modelling from Drawings

Using the drawing given we were tasked with recreating it (In basic form) within Fusion 360. While initially quite daunting we were asked to focus on the main parts of the bodies such as the 15,1 and 9 measurements. On the far right we could find the width of the body being 10mm and from the central picture we know the height to be 12mm, which gave us a diameter to work with.

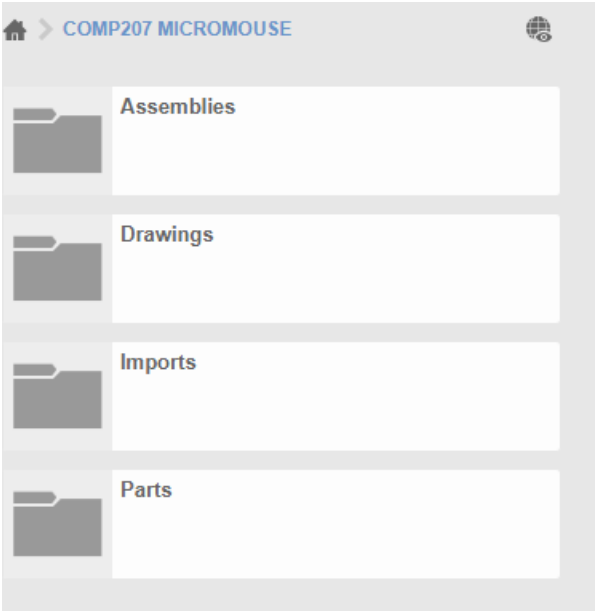


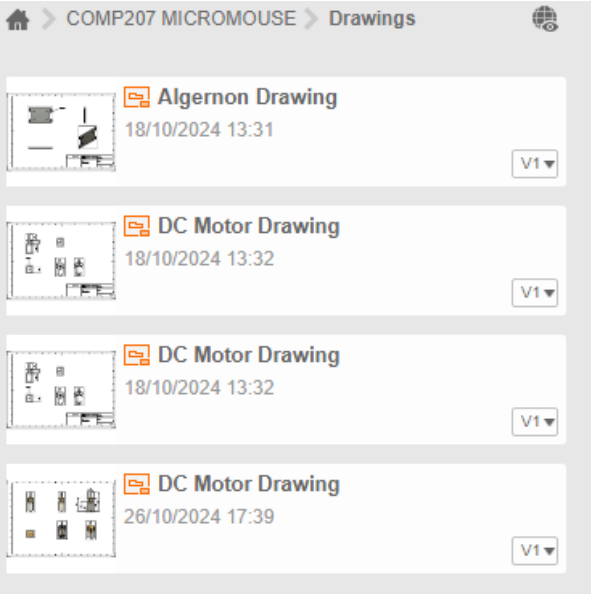


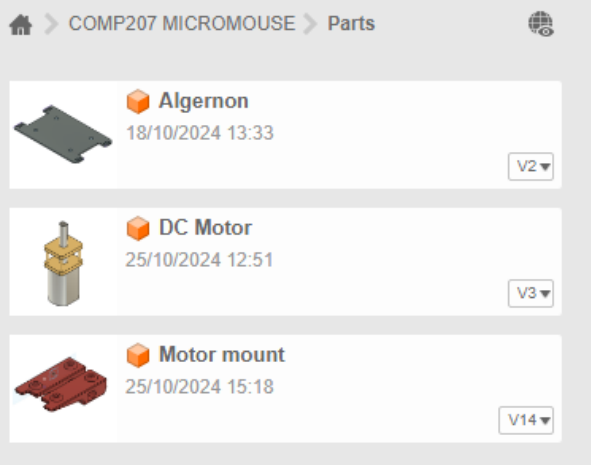
Next we were shown how to create technical drawings and how to render the items we had made. More practice with both drawing and rendering is needed. The dimension tool is particularly helpful.

Creating Assemblies

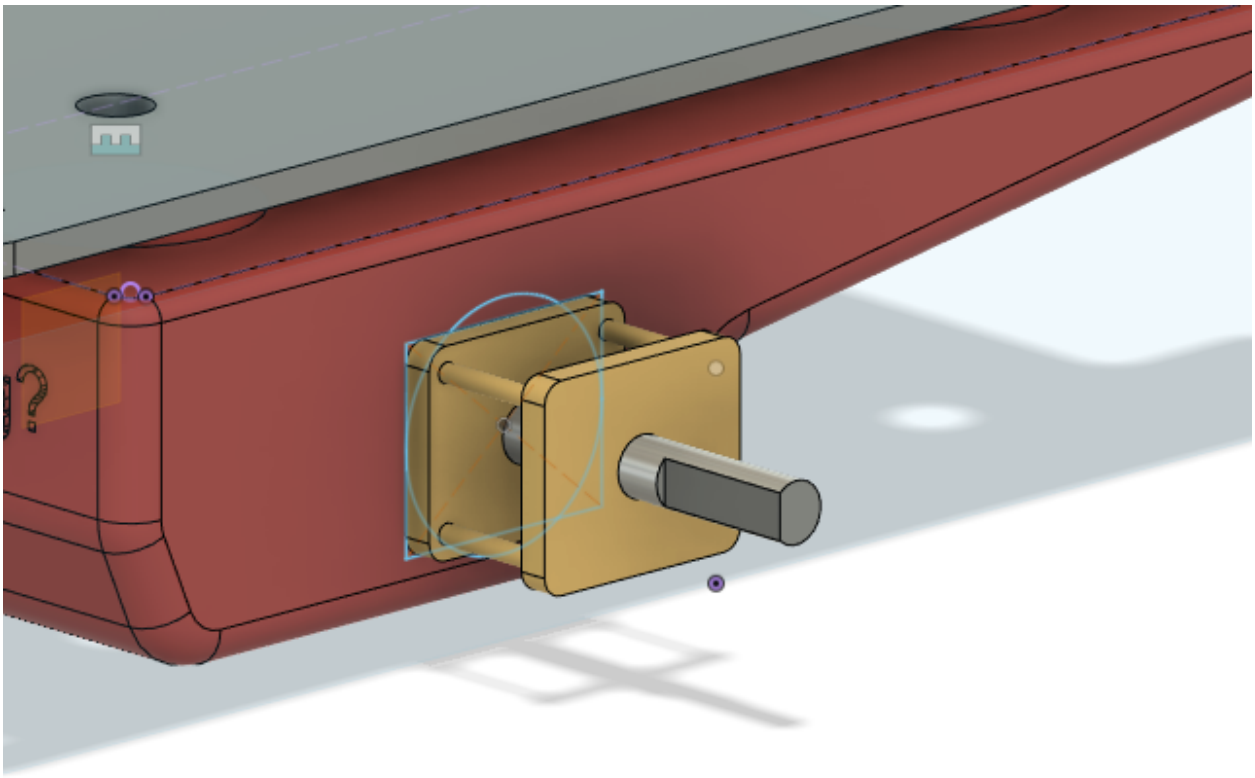
This section was very helpful as we were shown how to navigate and utilise the file system within Fusion 360 to help organise our work, which in turn helped when I was wanting to use different parts from different places while negating making a messy looking file systems.







Once they were all ordered nicely we tested out the Joint option, this allows the user to connect to seperate parts by picking the sides or curves they want connected. Can be a little tricky but it has options like flip and rotate which also help the process.



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