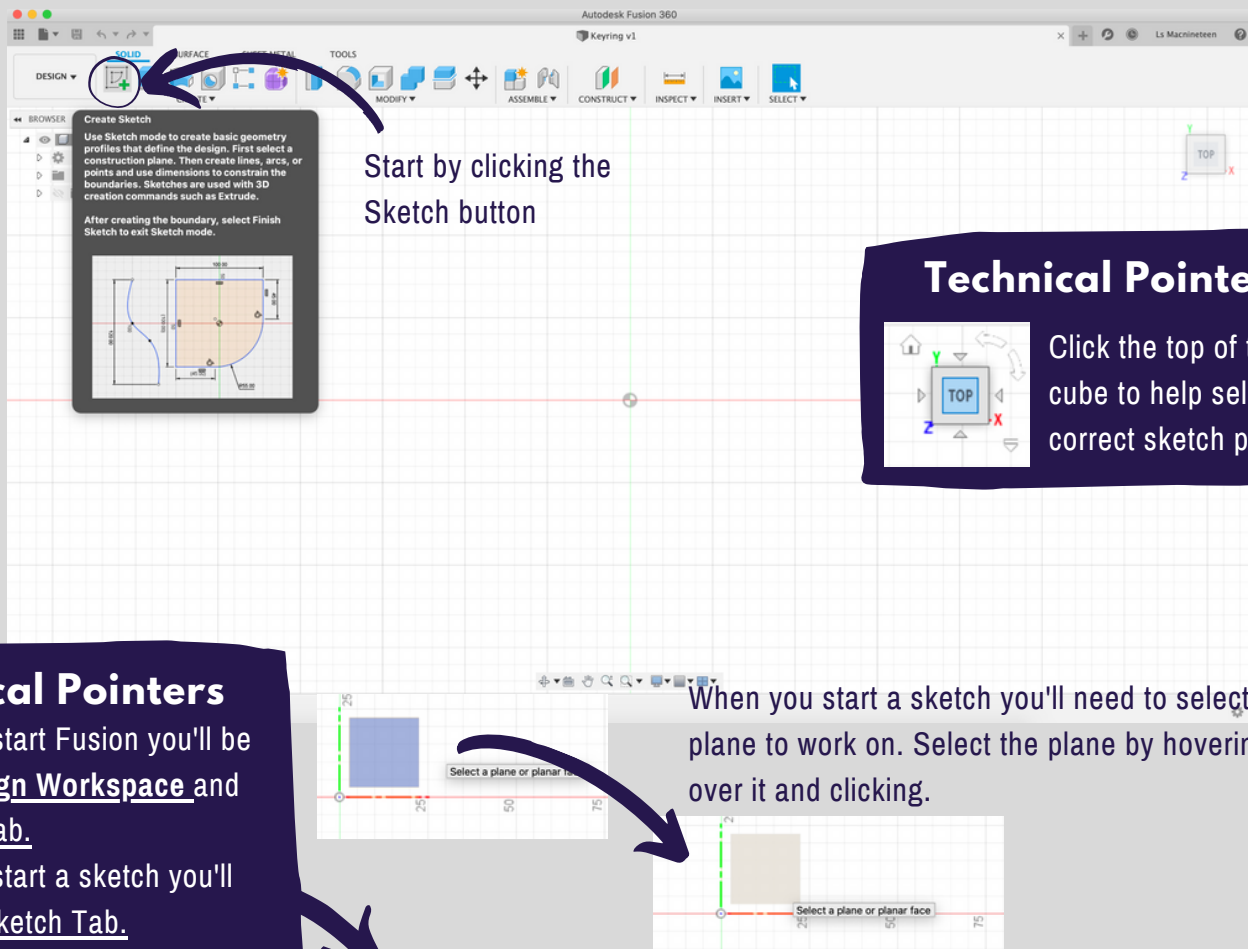


PAGE 1



Technical Pointers



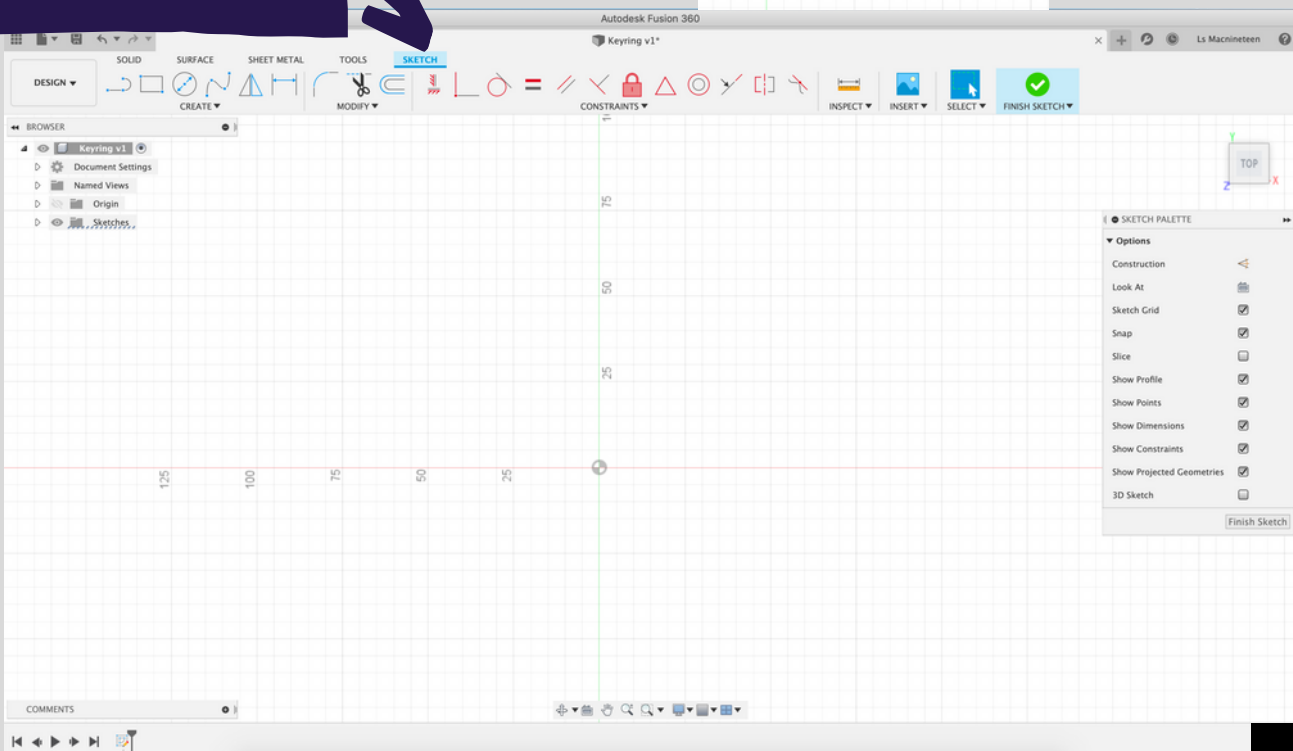
Click the top of the view cube to help select the correct sketch plane

Technical Pointers

When you start Fusion you'll be in the Design Workspace and the Solid Tab.

When you start a sketch you'll enter the Sketch Tab.

When you start a sketch you'll need to select a plane to work on. Select the plane by hovering over it and clicking.



PAGE 2

Technical Pointers
To zoom in Fusion roll the middle mouse button. To pan hold the middle mouse button

Start by drawing two circles with a radius of 50mm and 40mm

Draw a third circle with a radius of 35mm

Now draw two circles, 8mm and 12mm, just above the first circle group.

Sketch Dimensions:
 - Outer circle: $\varnothing 50.00$
 - Middle circle: $\varnothing 40.00$
 - Inner circle: $\varnothing 35.00$
 - Small circles: $\varnothing 12.00$ and $\varnothing 8.00$



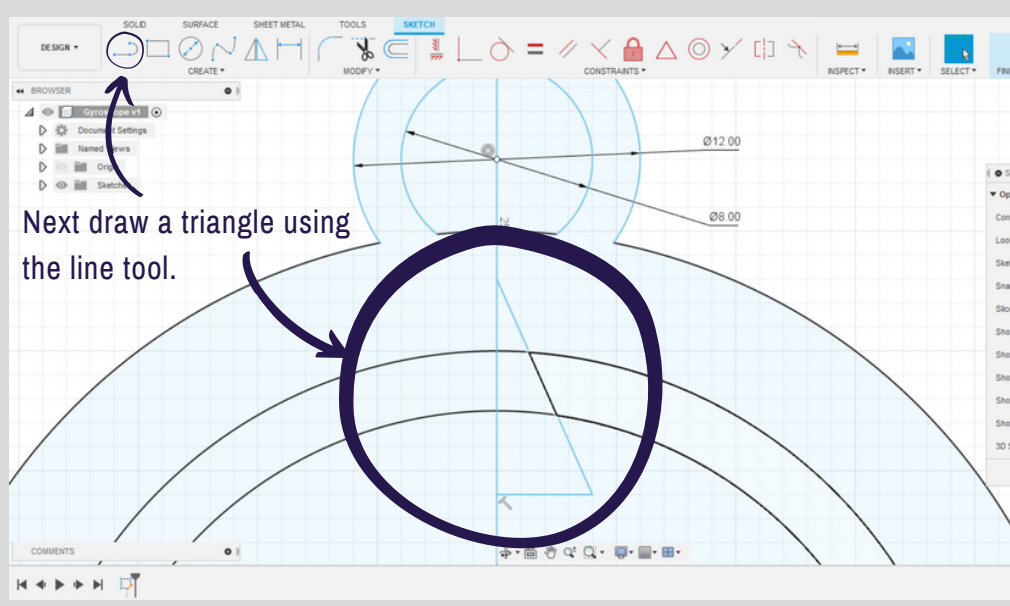
PAGE 3

Technical Pointers
Fusion will highlight the tool you're currently using

Technical Pointers
It's easy to get out of the sketch menu while editing your sketch. If this happens don't make a new sketch, instead double click on your original sketch in the timeline

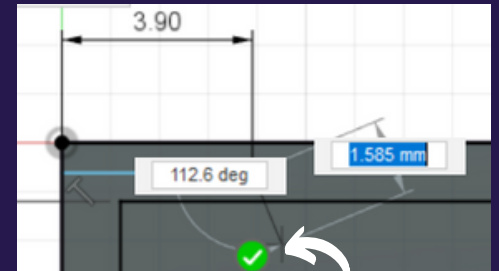


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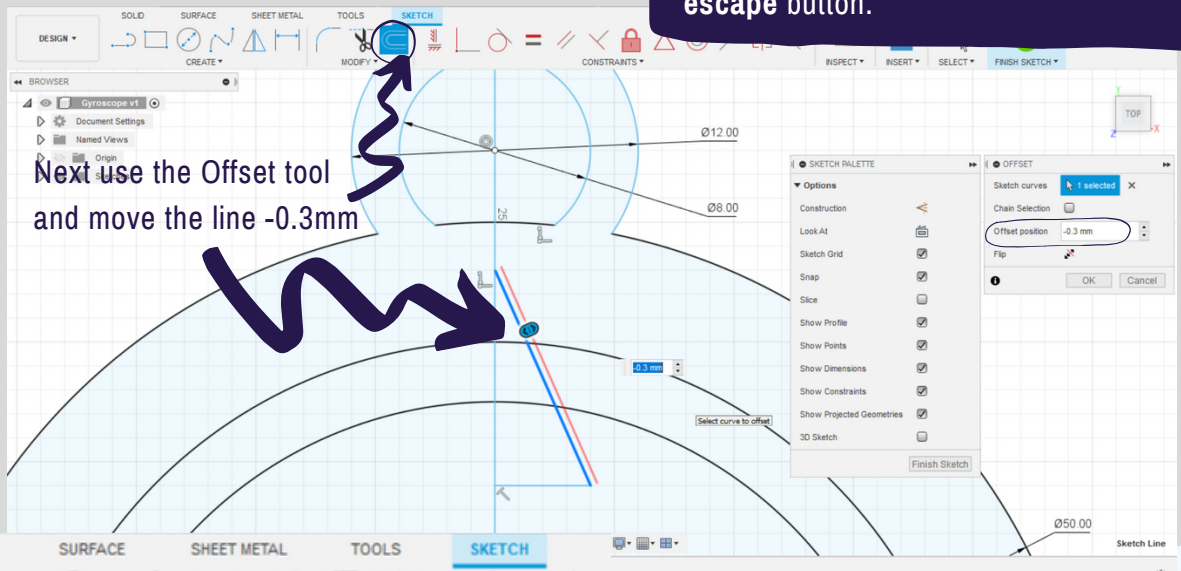


Next draw a triangle using the line tool.

Technical Pointers

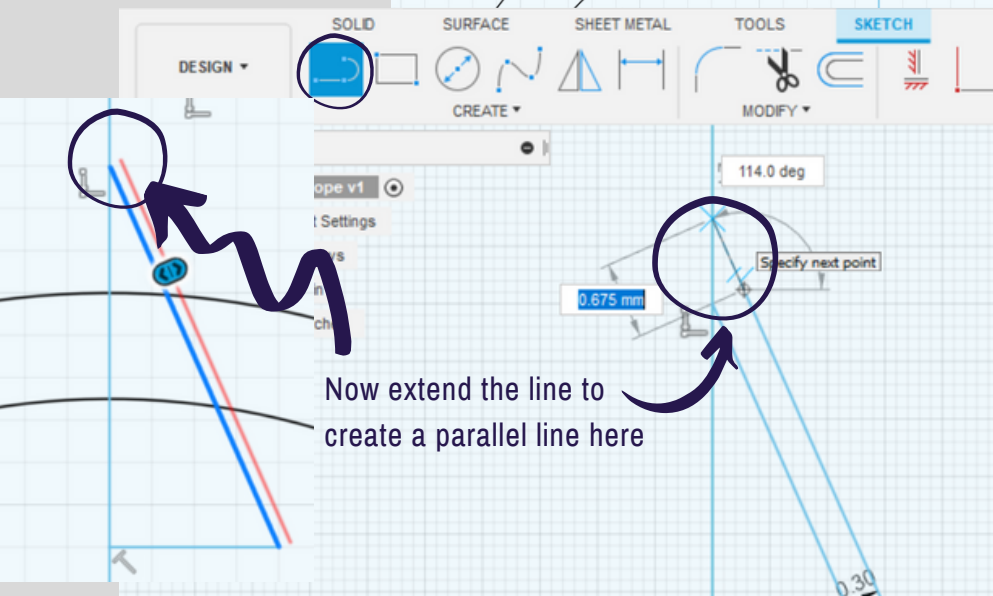


How do I finish a line?
When drawing lines unless you close the shape, Fusion will assume you want to keep on drawing. To finish just press the **green tick** or press the **escape** button.

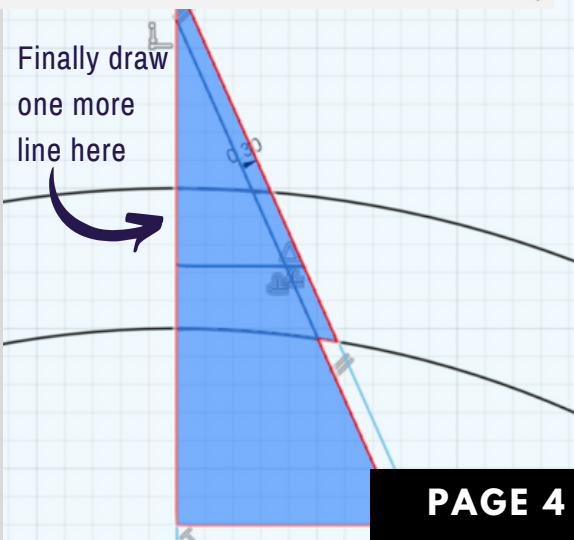


Next use the Offset tool and move the line -0.3mm

0.3mm is the tolerance of most 3D printers but you may need to adjust this tolerance for your printer



Now extend the line to create a parallel line here



Finally draw one more line here



PAGE 5

Next the aim is to mirror the triangle like this.

First draw a line through the middle of the circle, then select it and press x to make it a construction line.

Next lets use the mirror tool

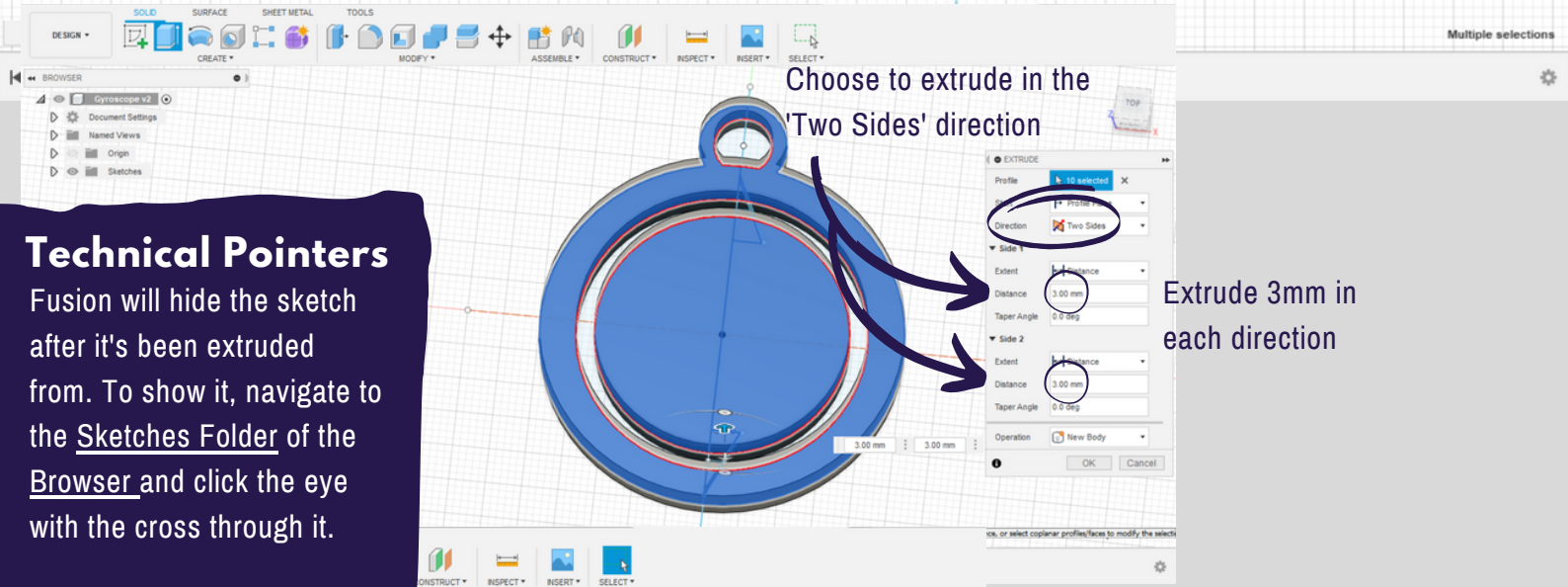
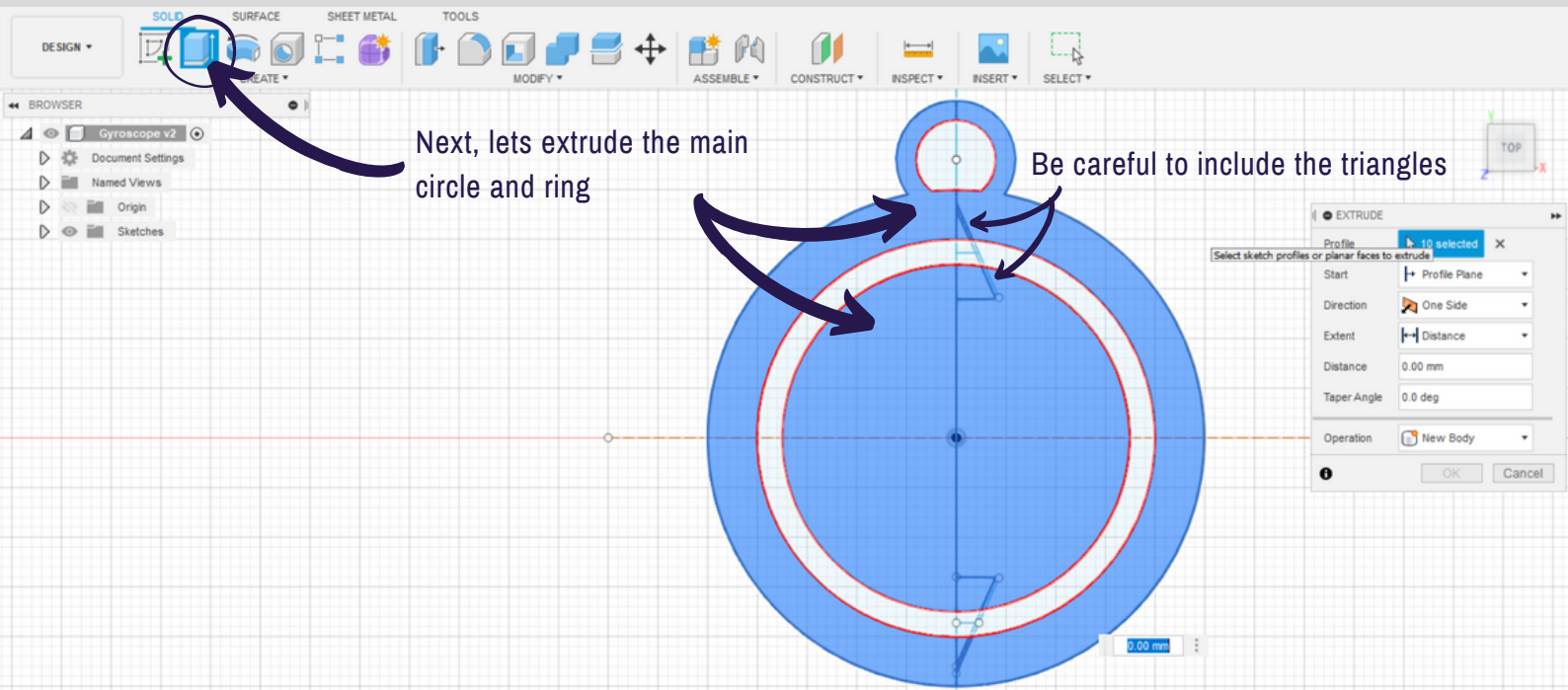
Start by selecting the 'Objects' to be mirrored, our triangles

Technical Pointers
To select multiple lines hold shift and select each one OR double click to select all connected lines

Technical Pointers
Fusion will show what the mirror will produce with black lines

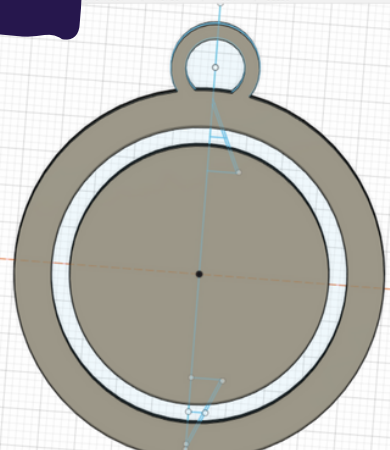


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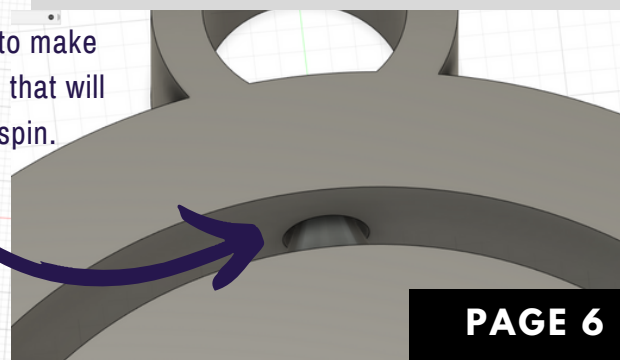


Technical Pointers
Fusion will hide the sketch after it's been extruded from. To show it, navigate to the Sketches Folder of the Browser and click the eye with the cross through it.

You should finish with a model like this one

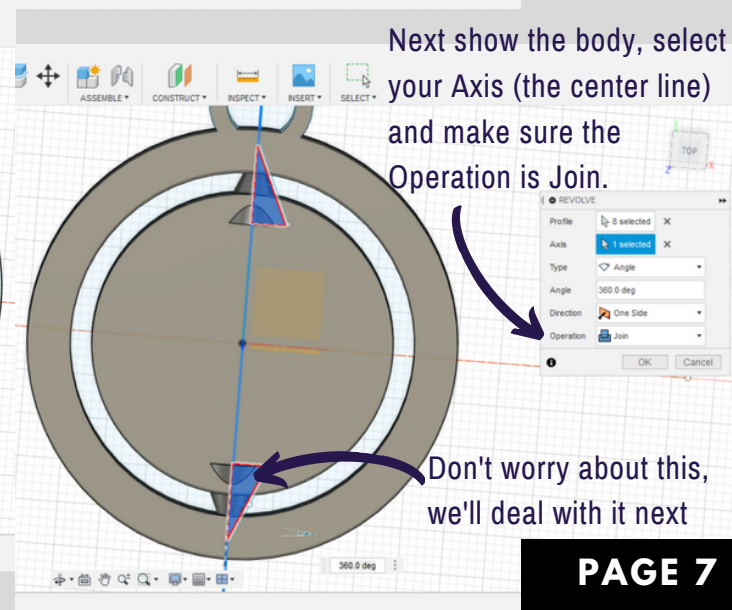
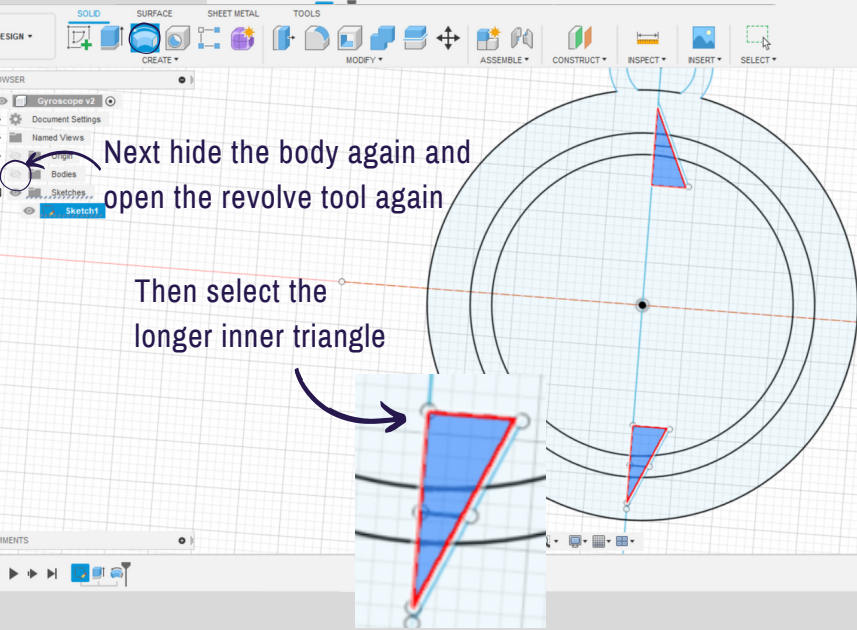
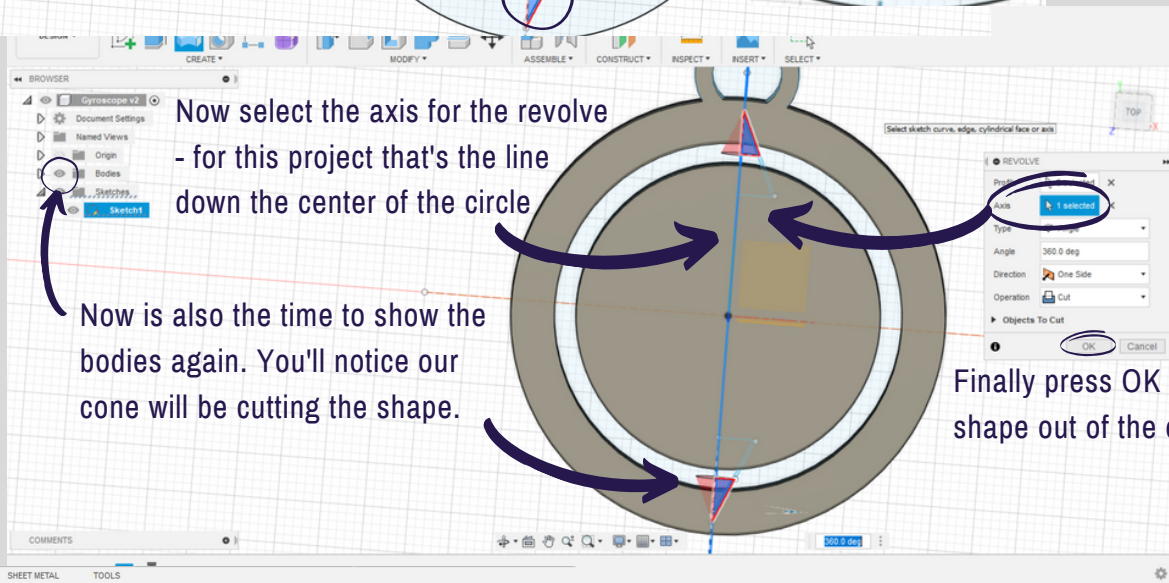
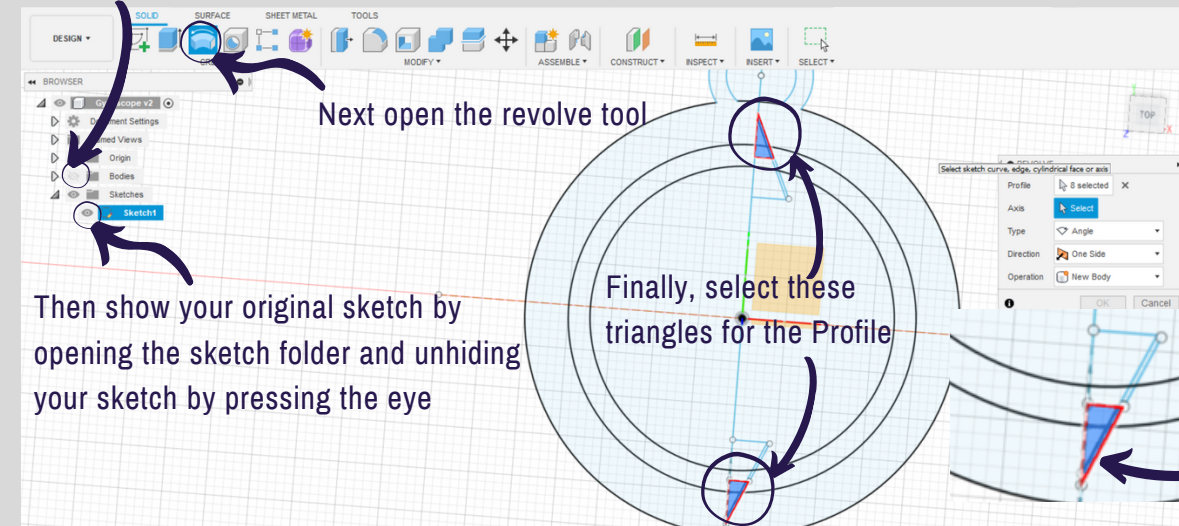


Next, we're going to make the spike and hole that will let our gyroscope spin.



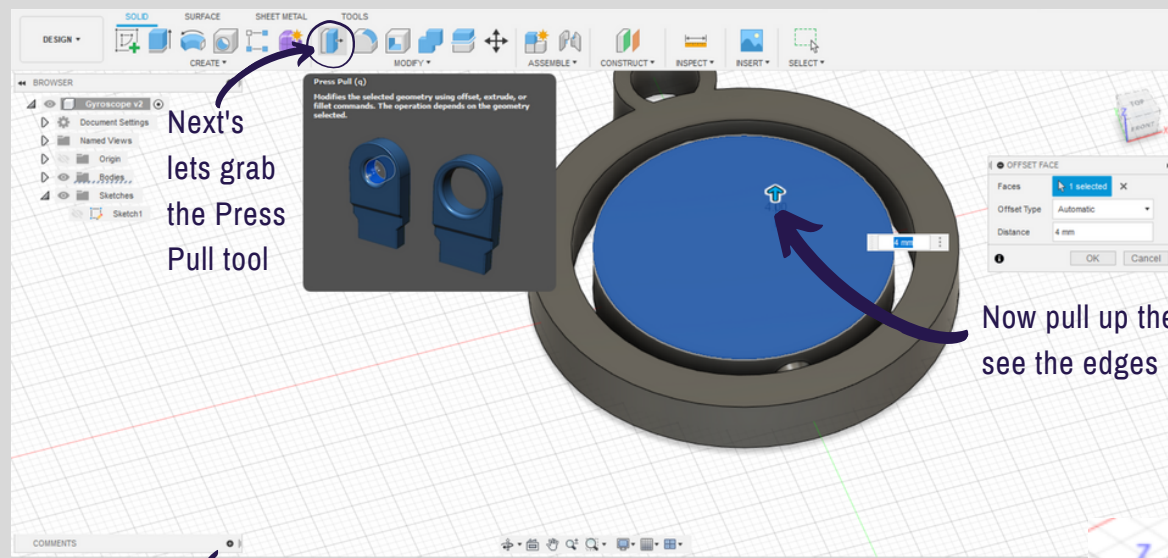
PAGE 7

Next we need to see the triangles in the sketch so first hide your body by pressing the grey eye





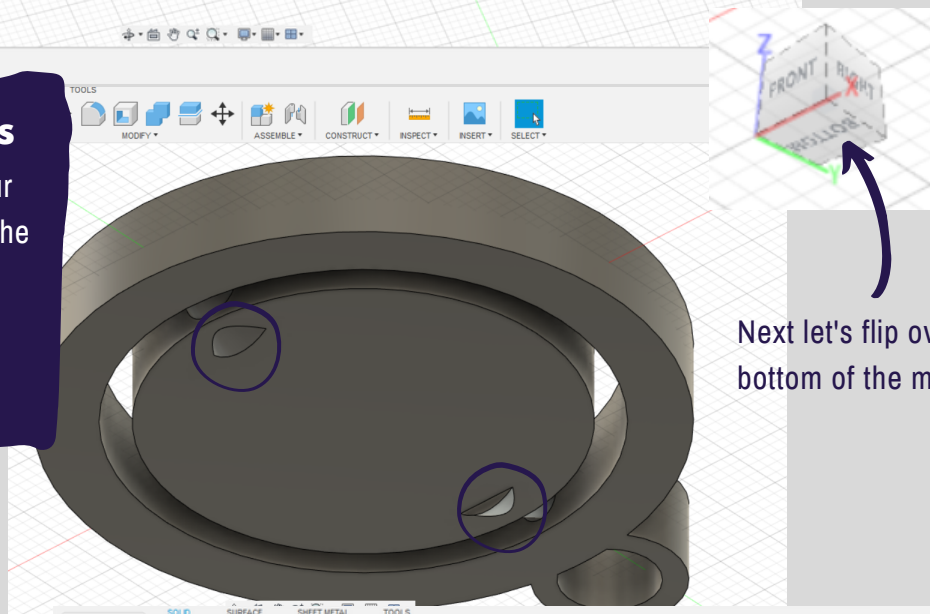
PAGE 8



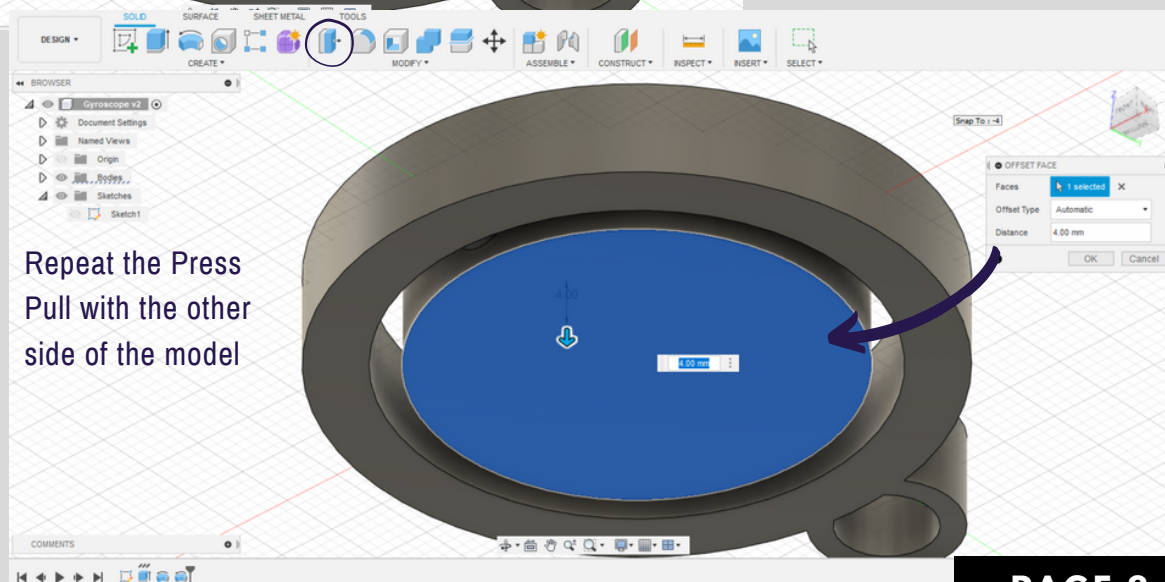
Next's lets grab the Press Pull tool

Now pull up the top face until you can't see the edges of the cones anymore

Technical Pointers
The bar on the bottom is your history bar. If you don't like the look of your model you can double click the sketch icon and edit the original sketch.



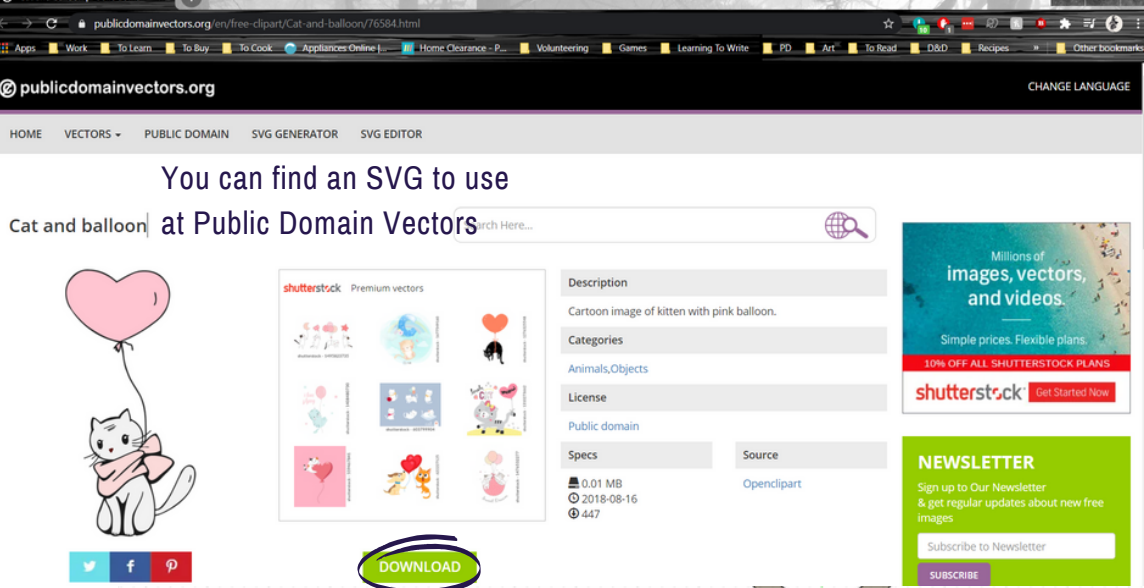
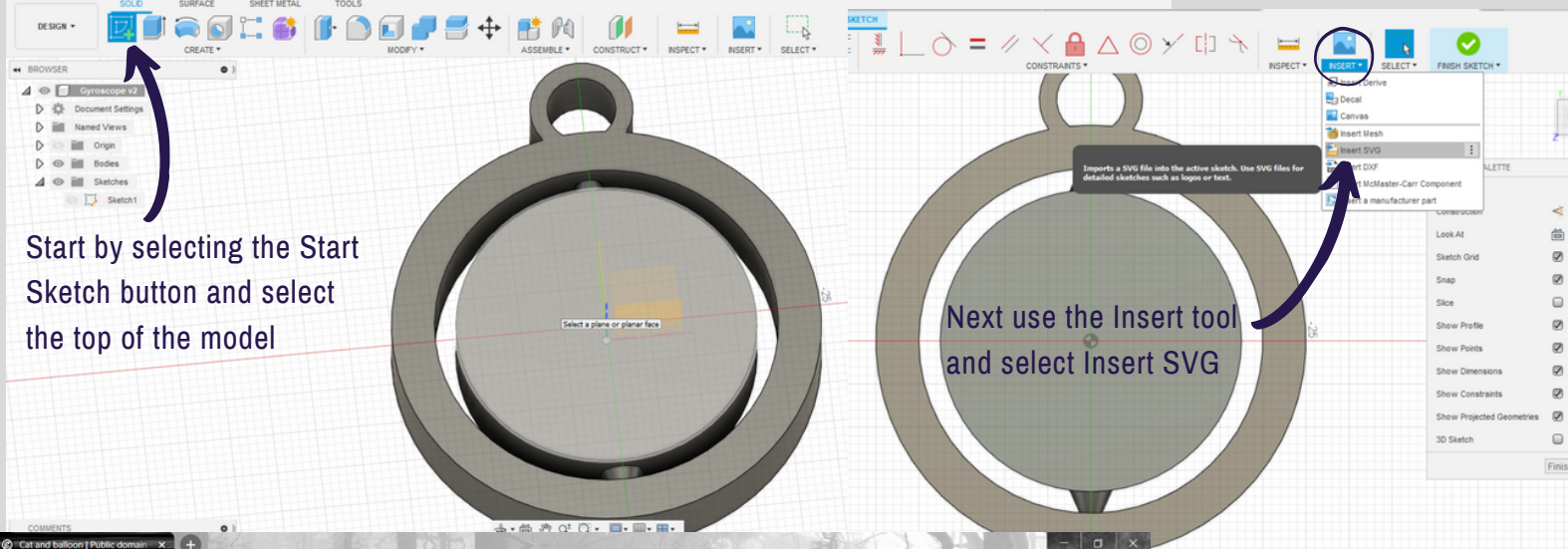
Next let's flip over to the bottom of the model



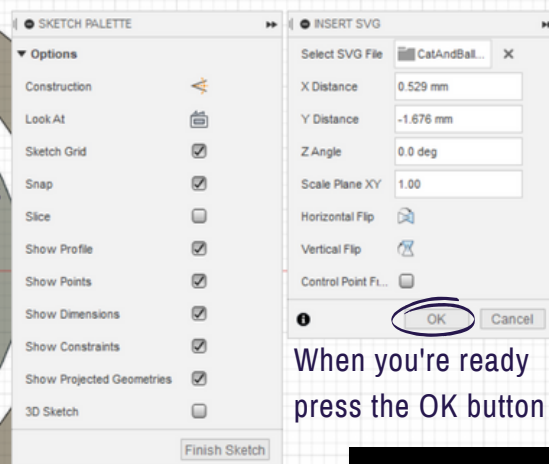
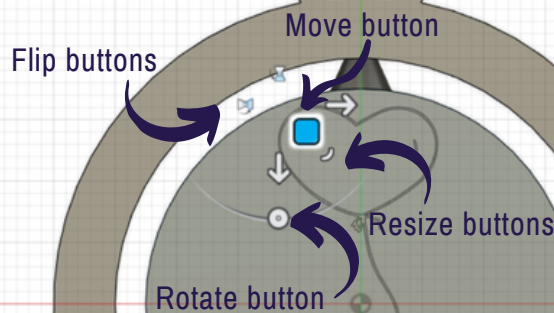
Repeat the Press Pull with the other side of the model

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Now the fun part, let's decorate!

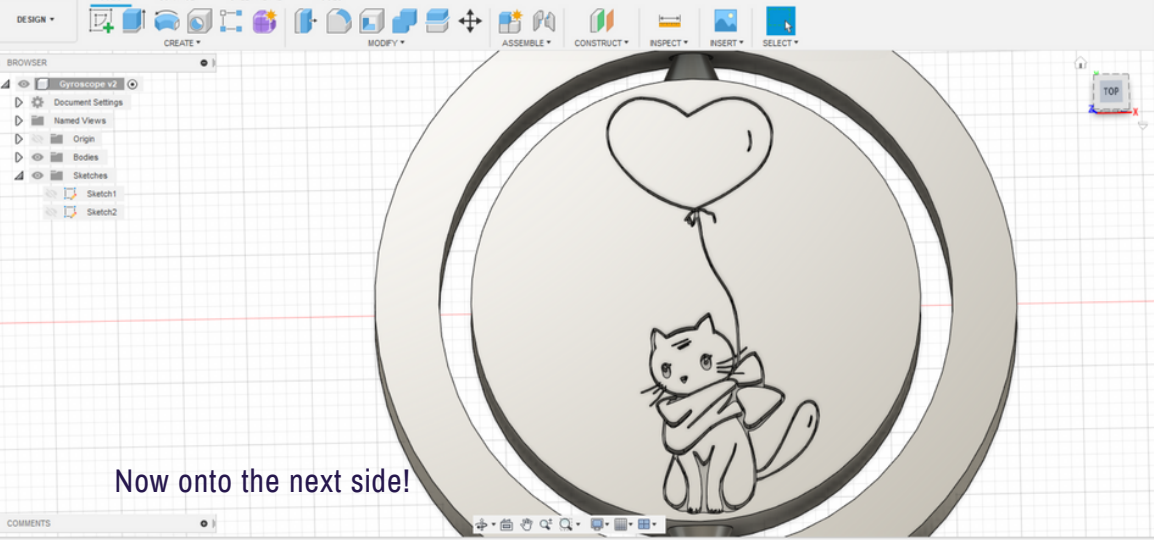
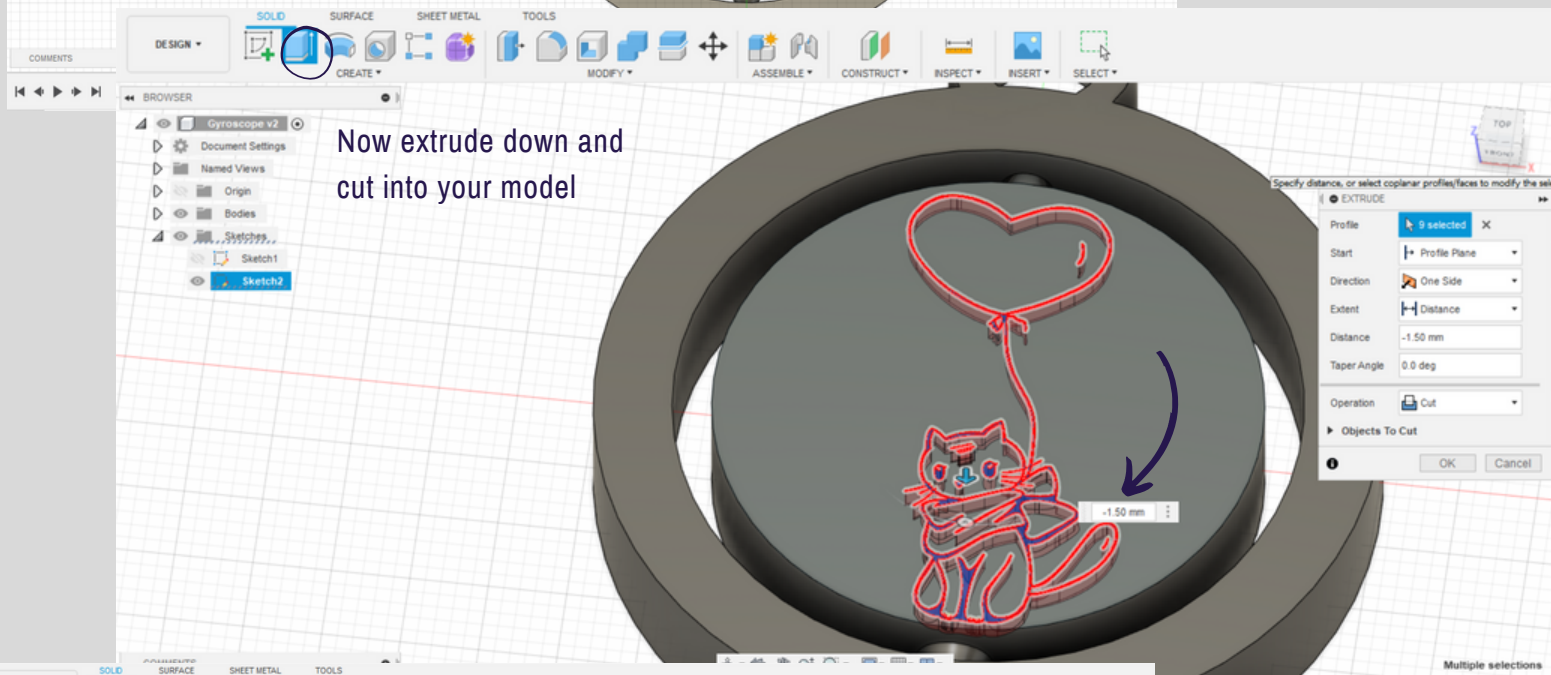
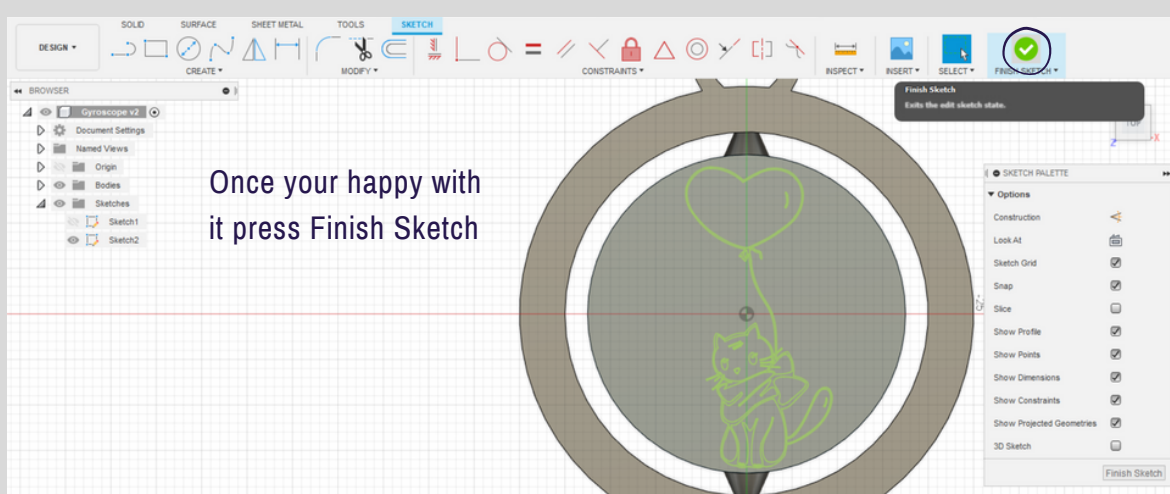


Next place your SVG





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PAGE 11

Start a sketch on the bottom of your model

Sketch a circle 20mm in diameter

Now type in some text

Next head to the Create menu and select the Text tool

Finally lets cut the text out

Now you can print this Gyroscope in place and it'll spin straight off the printer