CAD Tutorial : Phone Watch Stand

Design out the box

Time 60-90 mins approx

Level of difficulty ★★★★☆

By the end of this tutorial you will be able to…

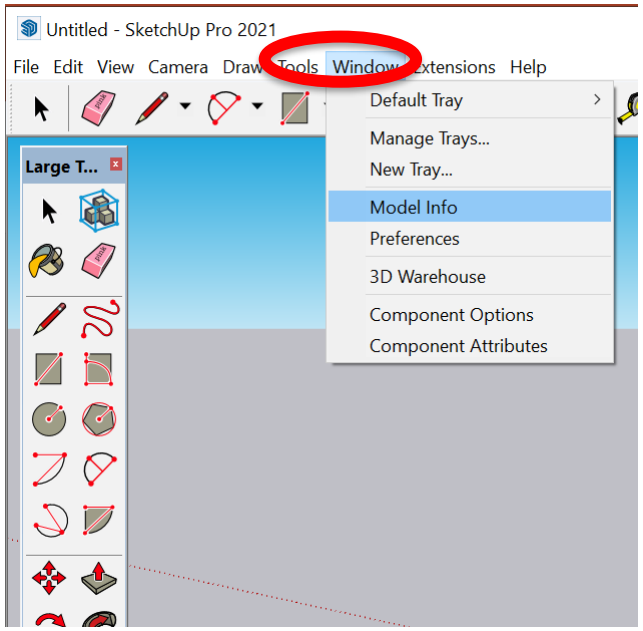
Link basic shapes
Use the Arc tool
Use the Follow Me tool to produce a rounded edge
Use construction lines/points
Colour/render your finished storage unit

Skills to be used in this project…

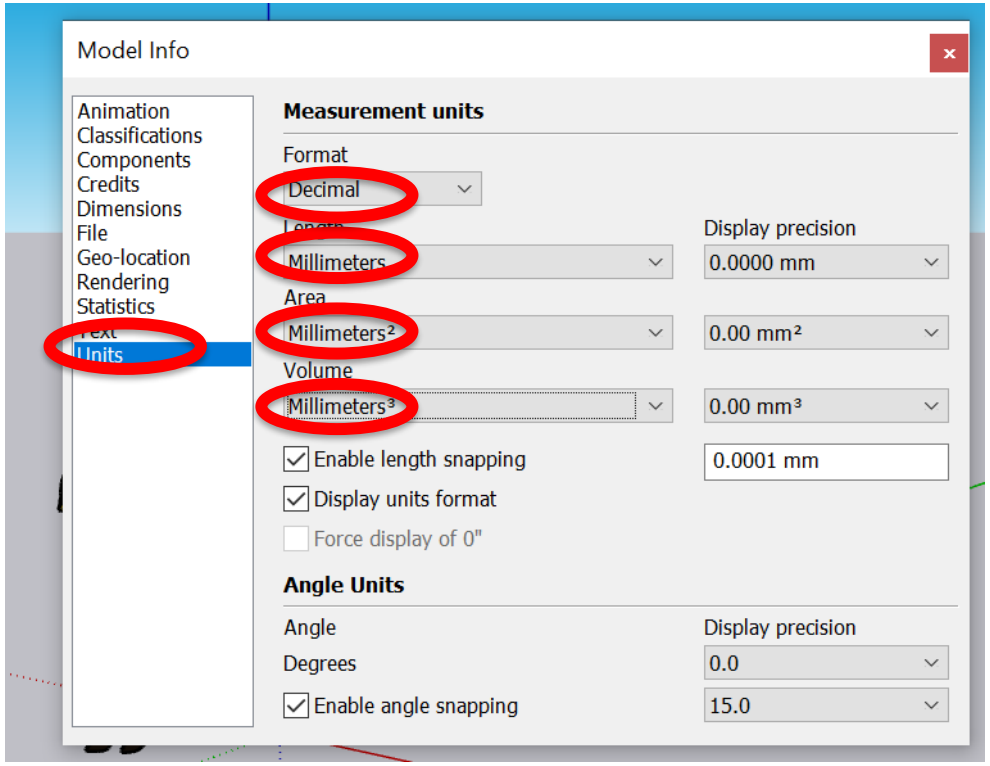
Basic Skills	New and Higher Skills
Zoom tool	Construction lines and points
Orbit tool	Tape Measure tool
Pan tool	Arc tool
Line tool	Follow Me tool
Rectangle tool	Loading new toolbars
Circle tool	Paint Bucket tool
Eraser tool	
Push/Pull tool	

Basic skills are those required to do very basic drawings and are detailed as part of this presentation.

New and higher skills may be new to the novice and are the focus for learning in this presentation.



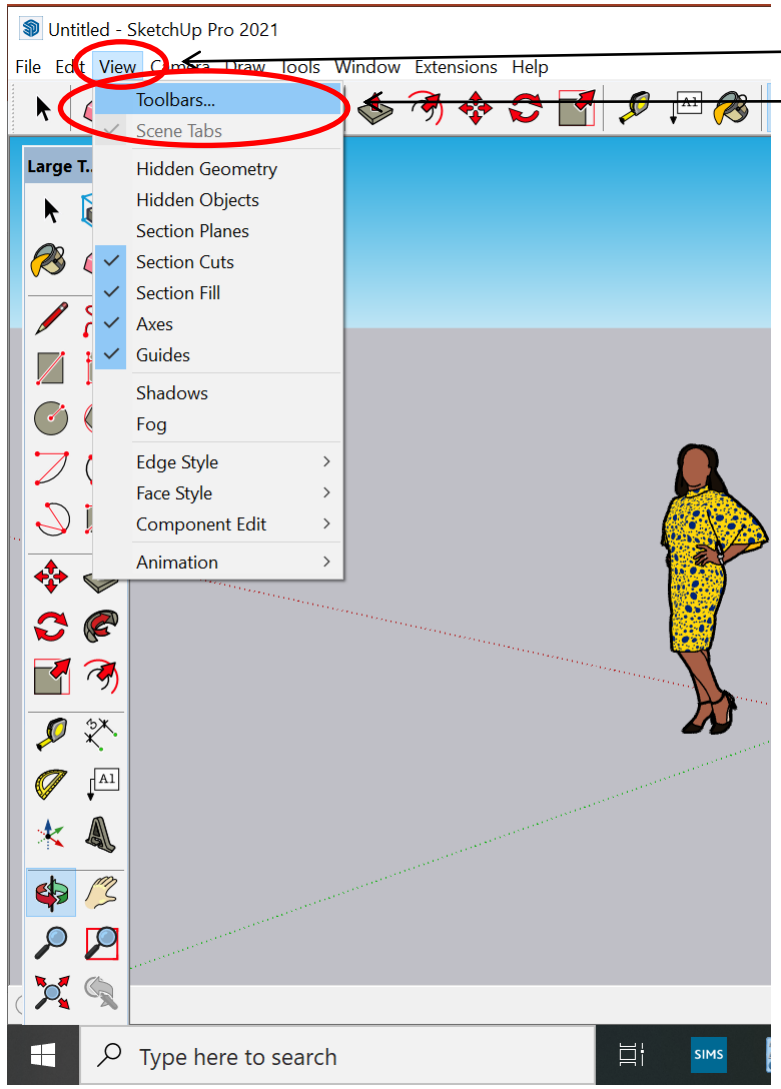
1. Open the sketch up drawing. Once you have opened SketchUp, go to **Window** and select **Model Info**



2. Select **Units** and choose: Format **Decimal**. Length: **Millimetres,** Area: **Millimetres and** Volume**: Millimetres** We are using this template because we are doing a product design.

***Note**: It is often necessary to start a new file to use the new template. Go to **File** then **New**.*

3. Now select the **View** then **toolbars** and ensure **Getting Started** and **Large Tool Set** are ticked

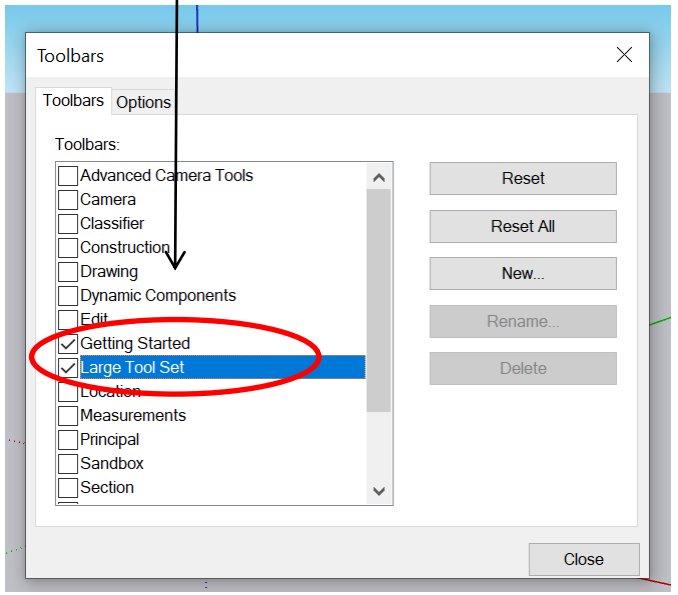


3a Select **View**

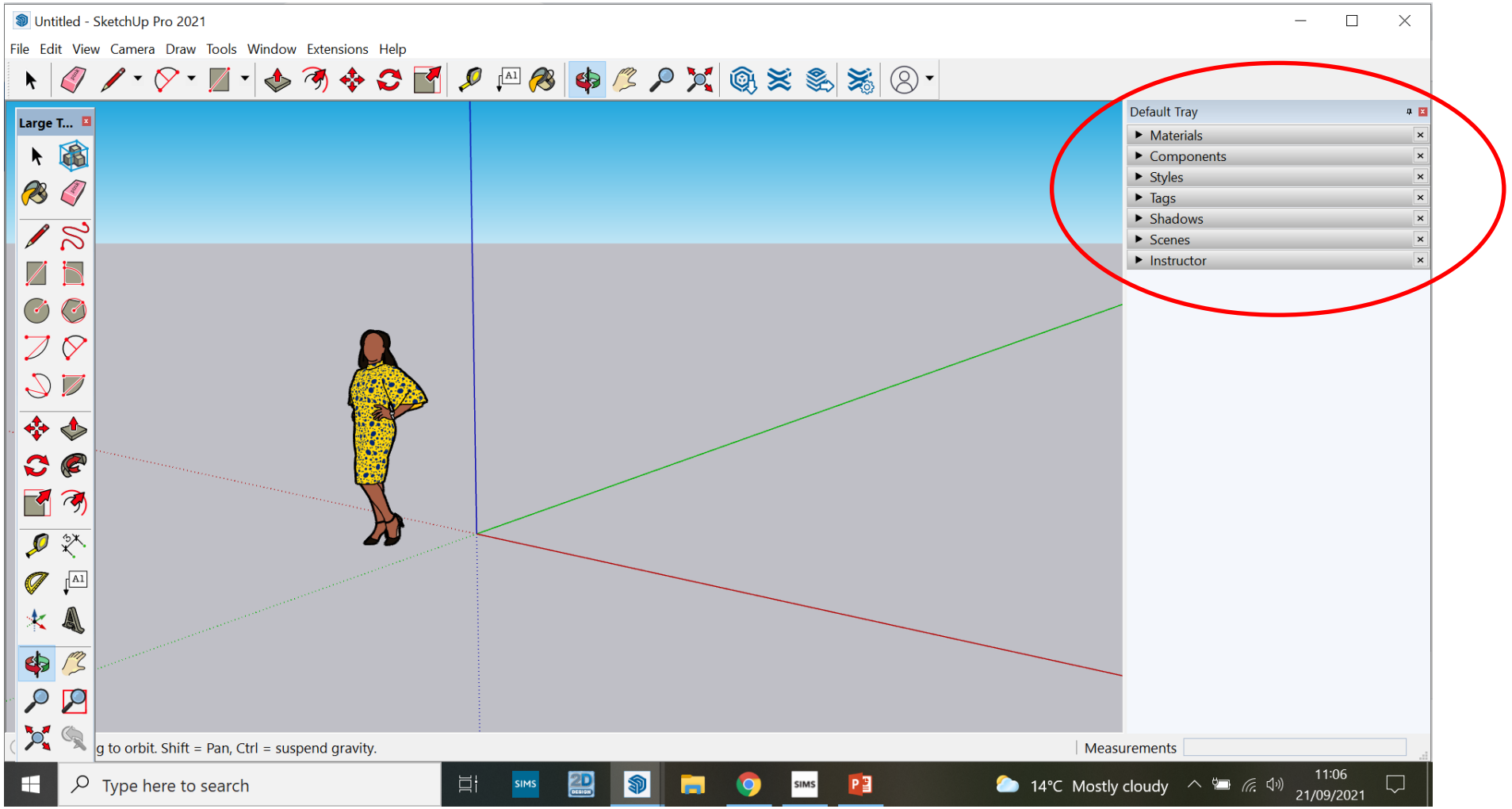
3b Select **toolbars**

3c Tick Getting Started

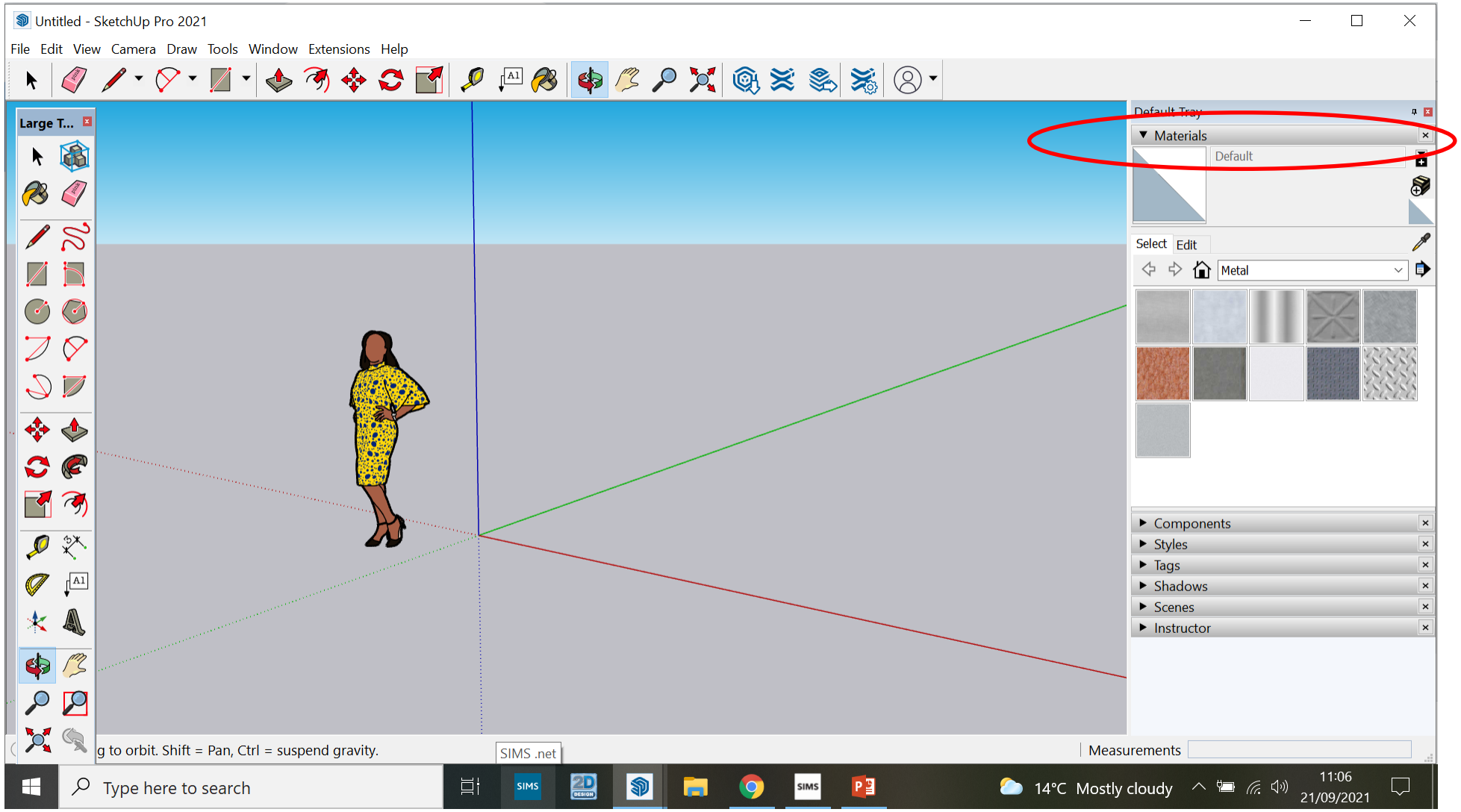
3d Tick Large Tool Set



Note**: this will place a tool bar across the top **(getting started)** and the side **(Large Tool Set)

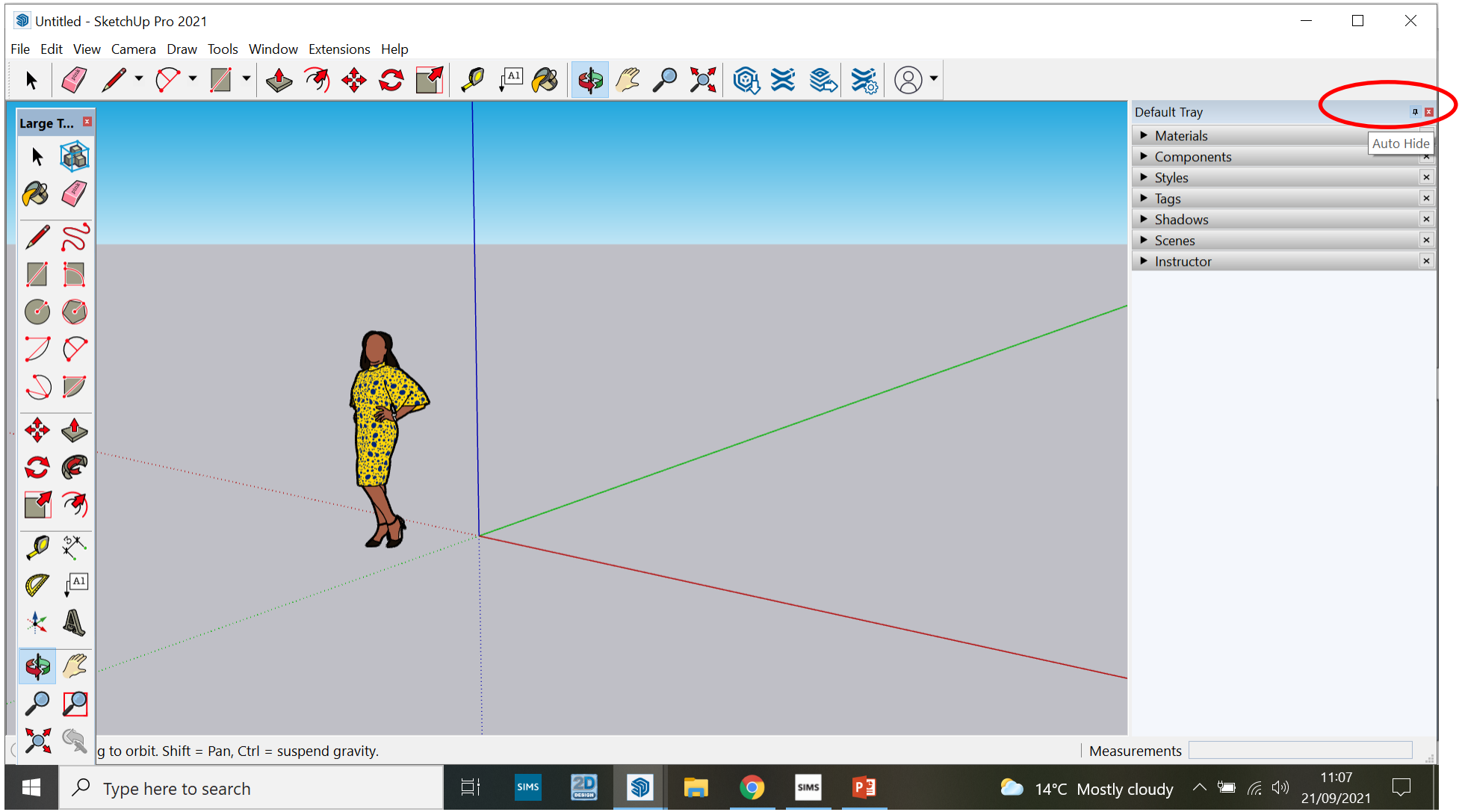


3d. On the latest version the colour bucket and other features can be found in the default tray

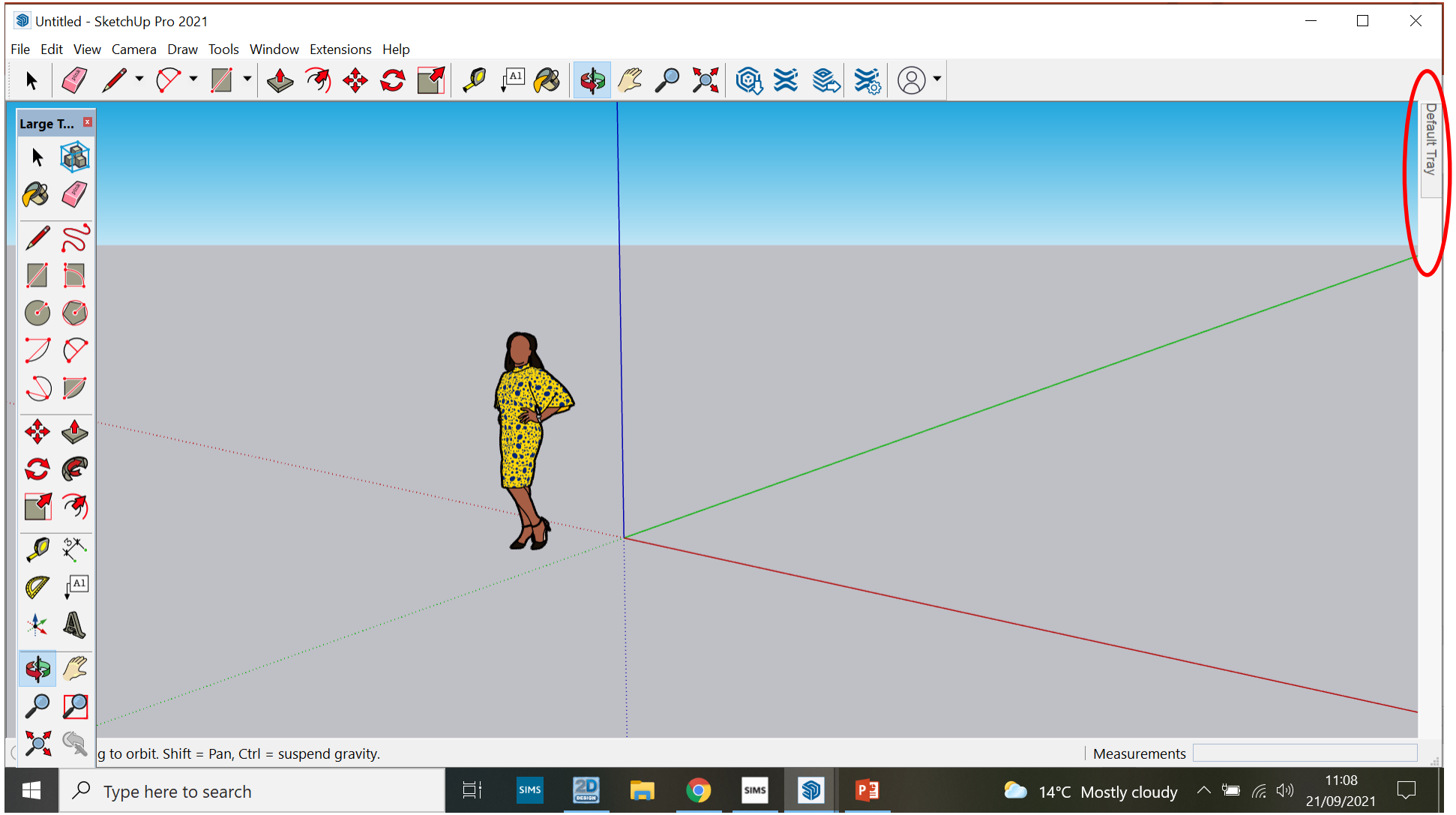


3e. On the latest version the colour bucket and other features can be found in the default tray.

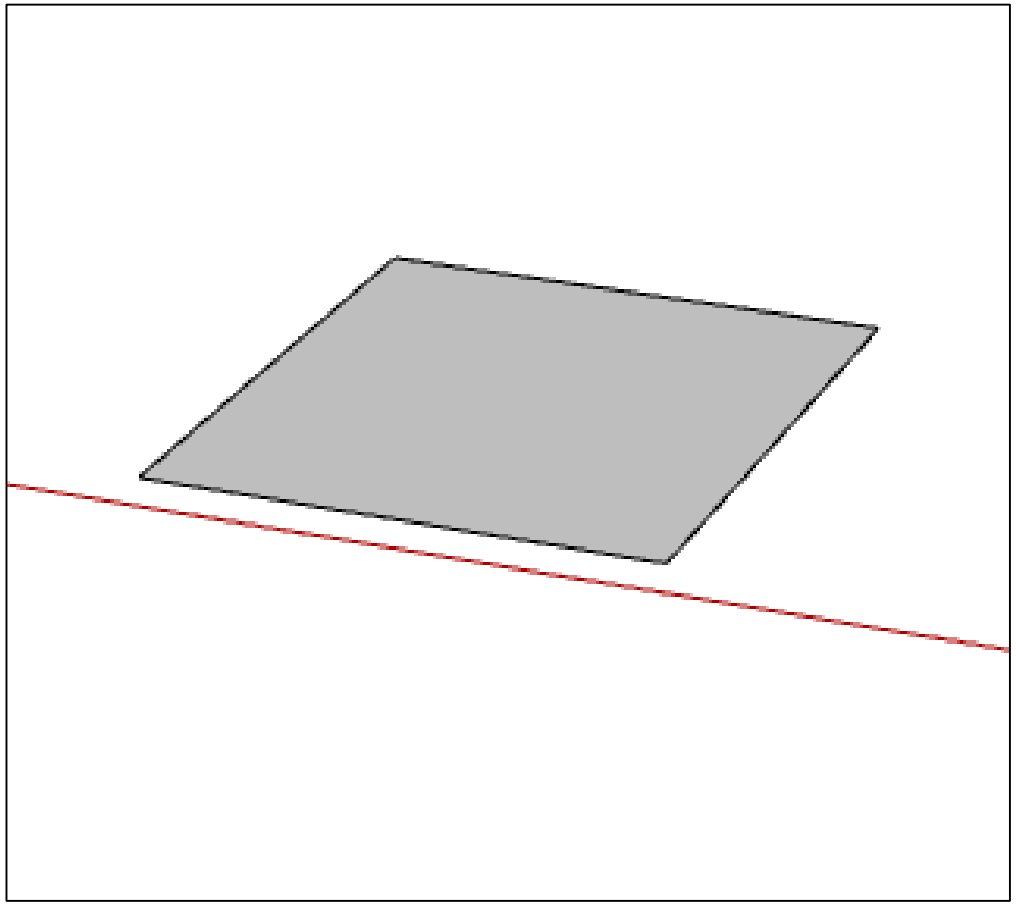
You can click on the drop down menu to choose your colours



3f. The default menu can be closed to maximise your screen by clicking on the pin icon.

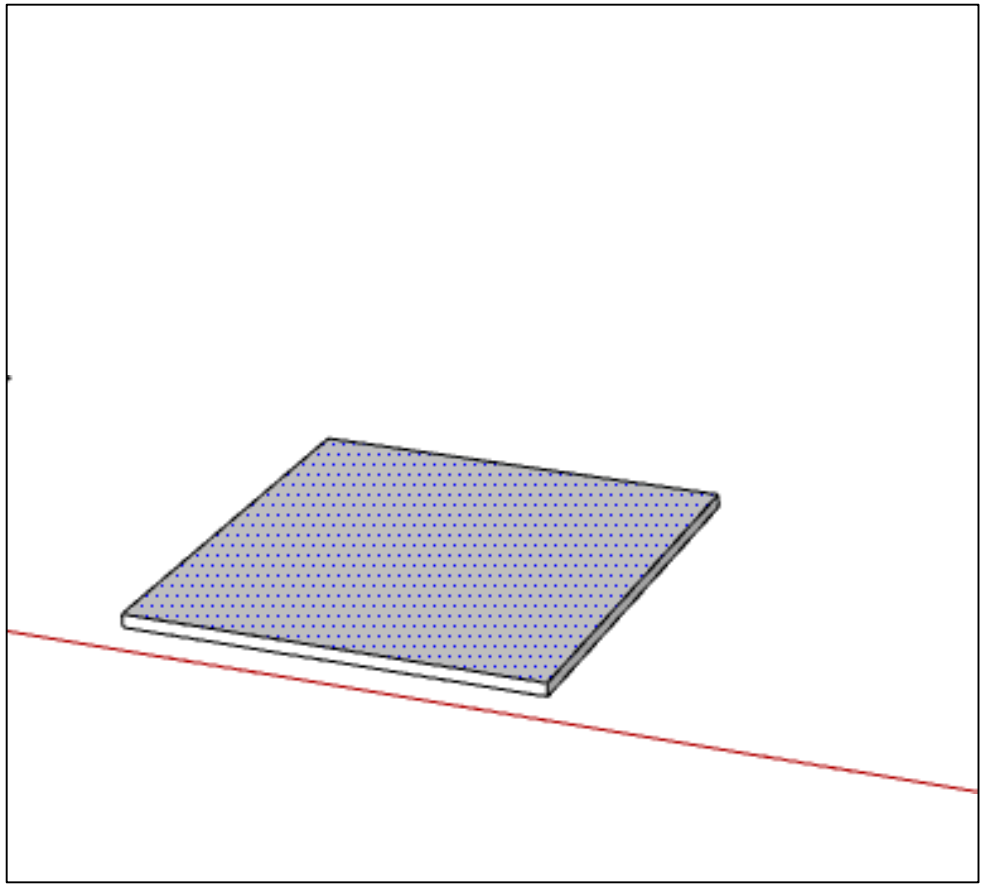


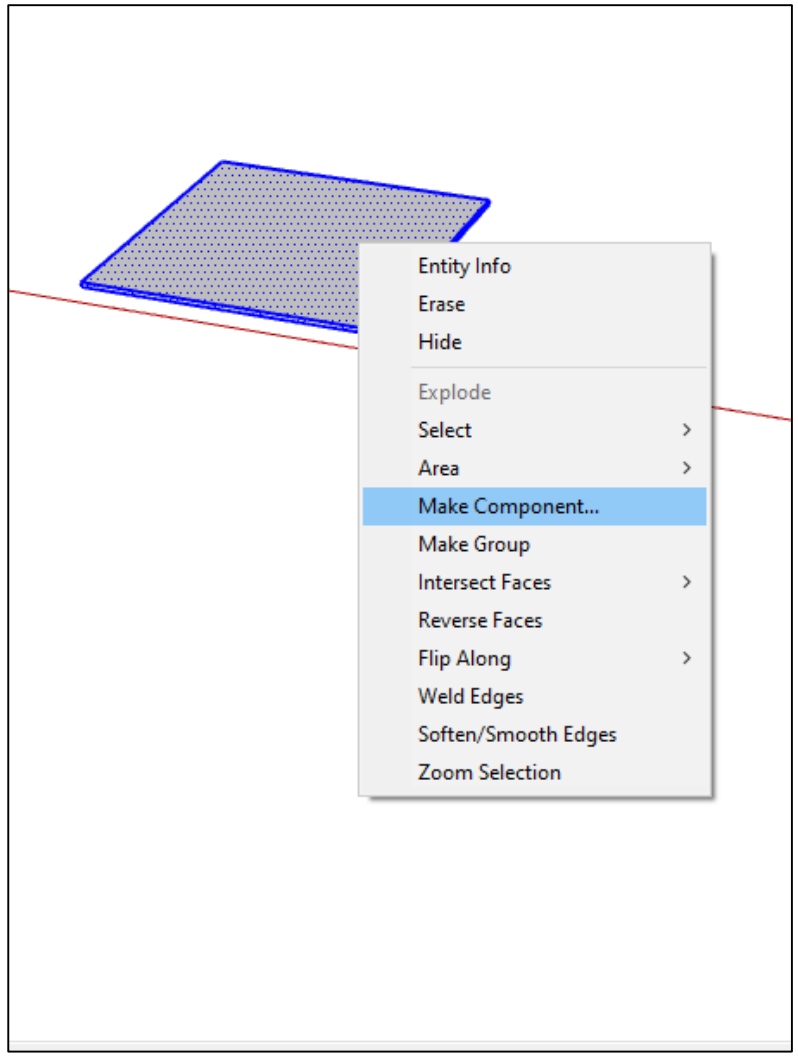
3g. It can be accessed at any time by clicking the default tray



Use the **rectangle** tool to create a square. **250,250mm**. This is the base.

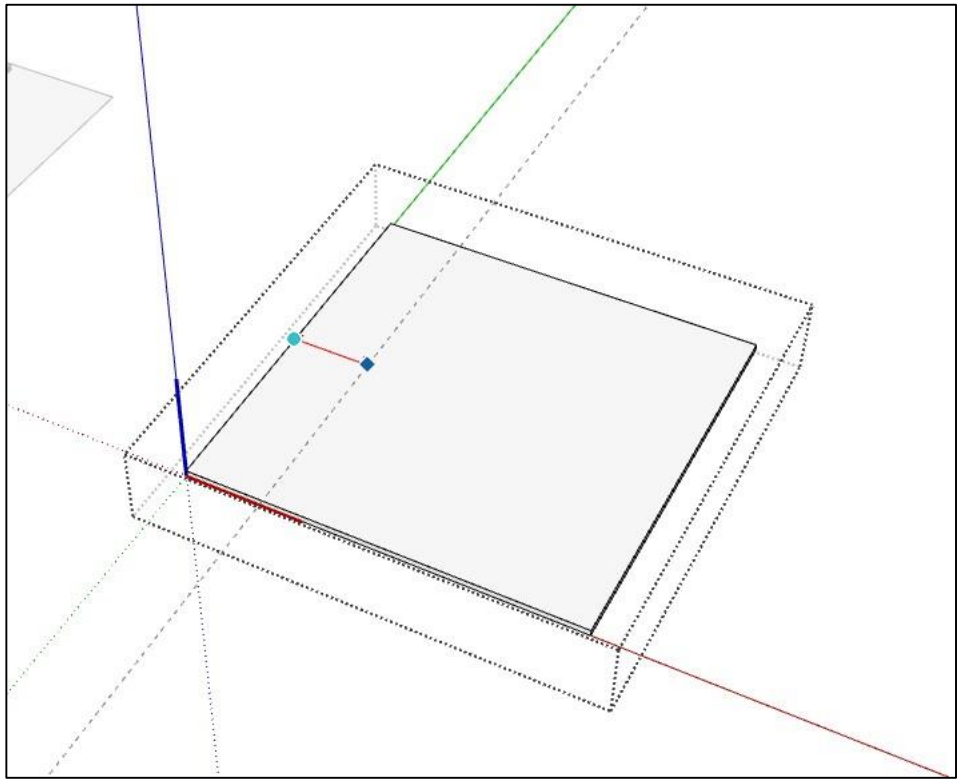
Use the **push pull** tool to extrude the square by **4mm**

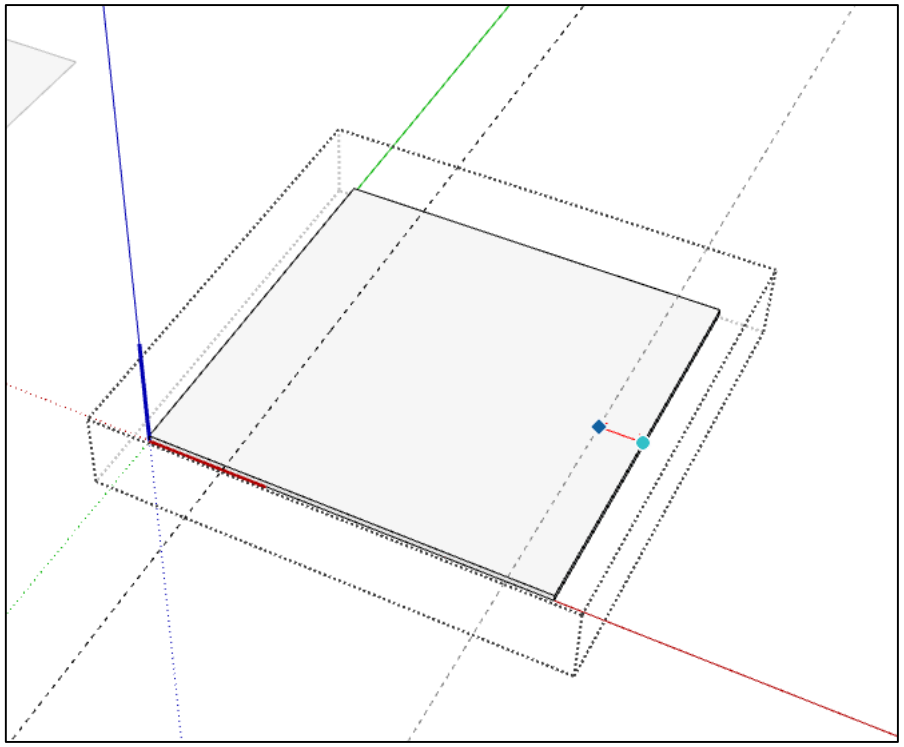




Using the **select** tool, triple click the object to select it all, then right click on the object and make component.

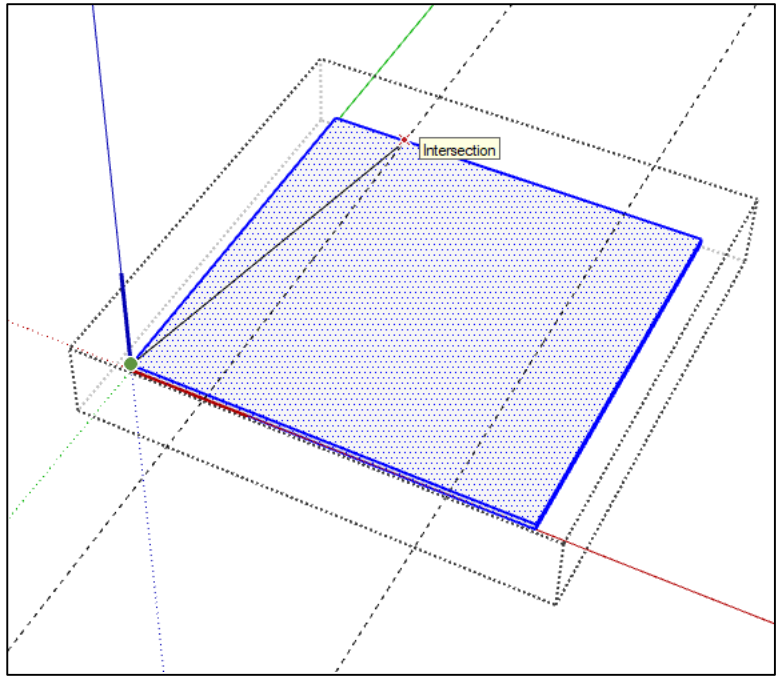
Use the **tape measure** tool in order to set your tape measure **50mm** from the left hand side

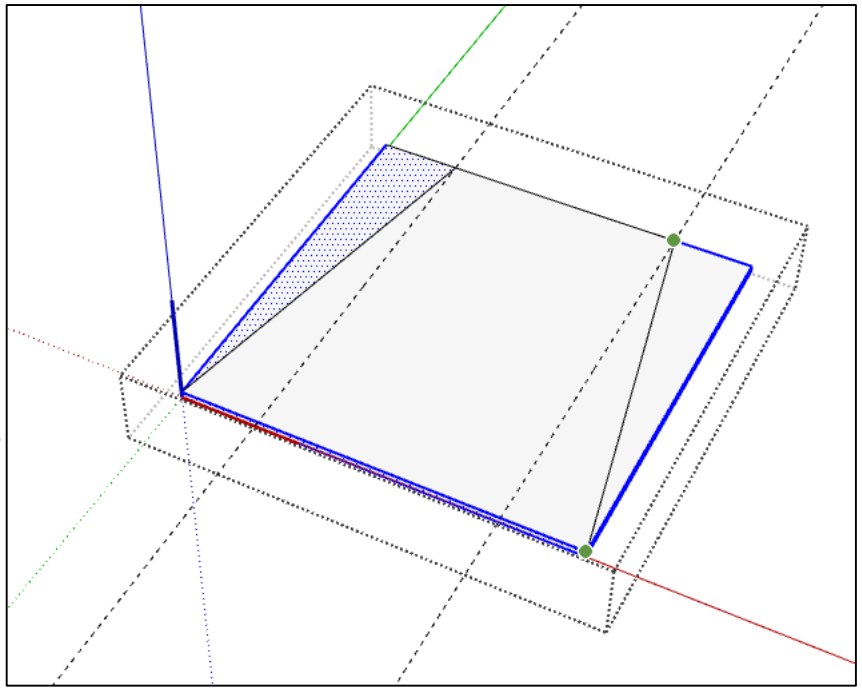




Using the tape measure again, set a **tape measure** **50mm** from the right hand side

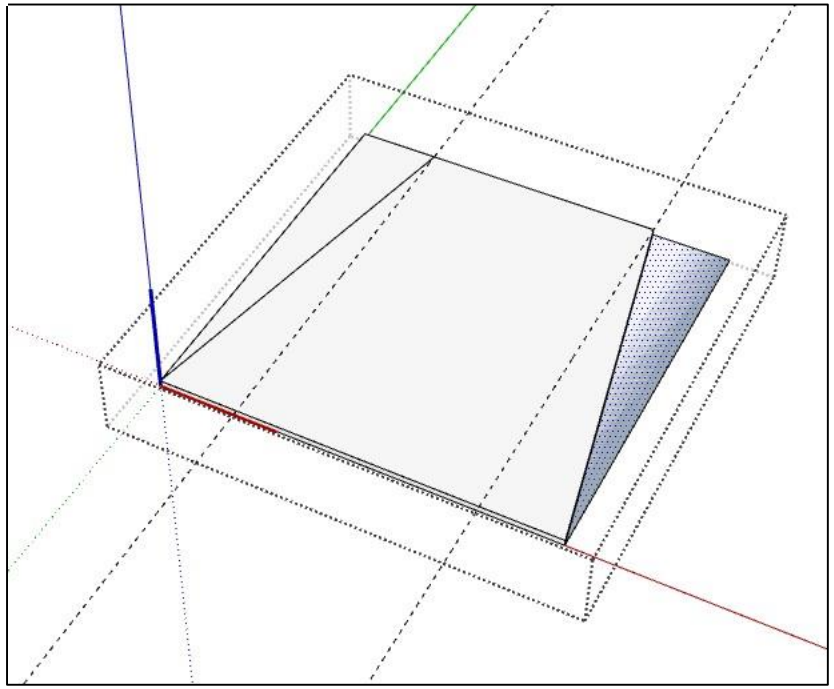
Double click the square to edit the component. Using the **pencil** tool draw a diagonal line like the image shown below

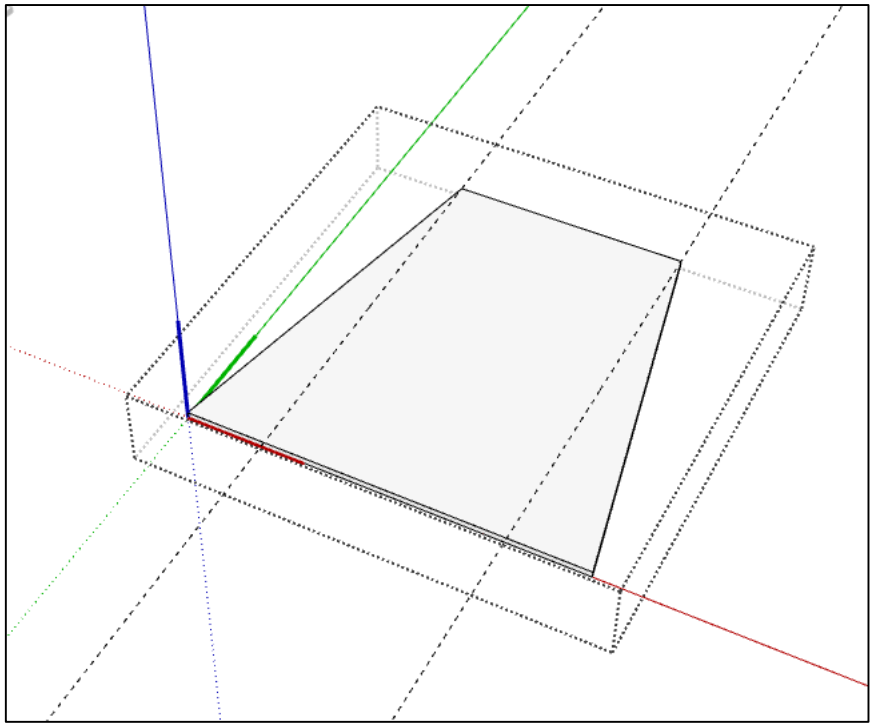




Repeat on the right hand side using the **pencil** tool

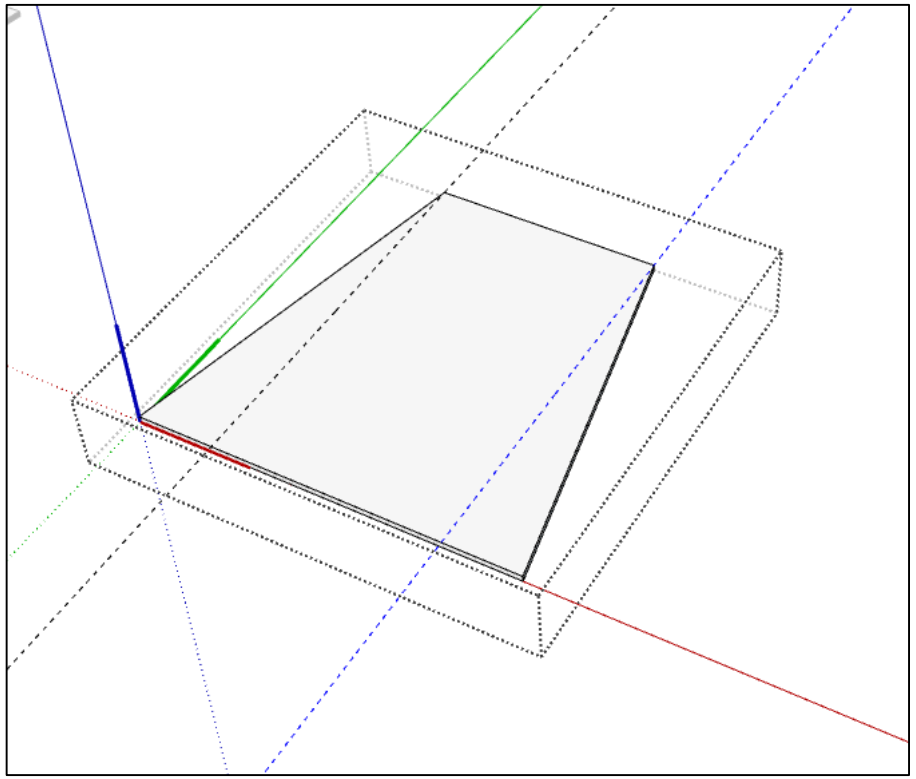
Using the **push pull** tool push both sides of the shape down to create a trapesium

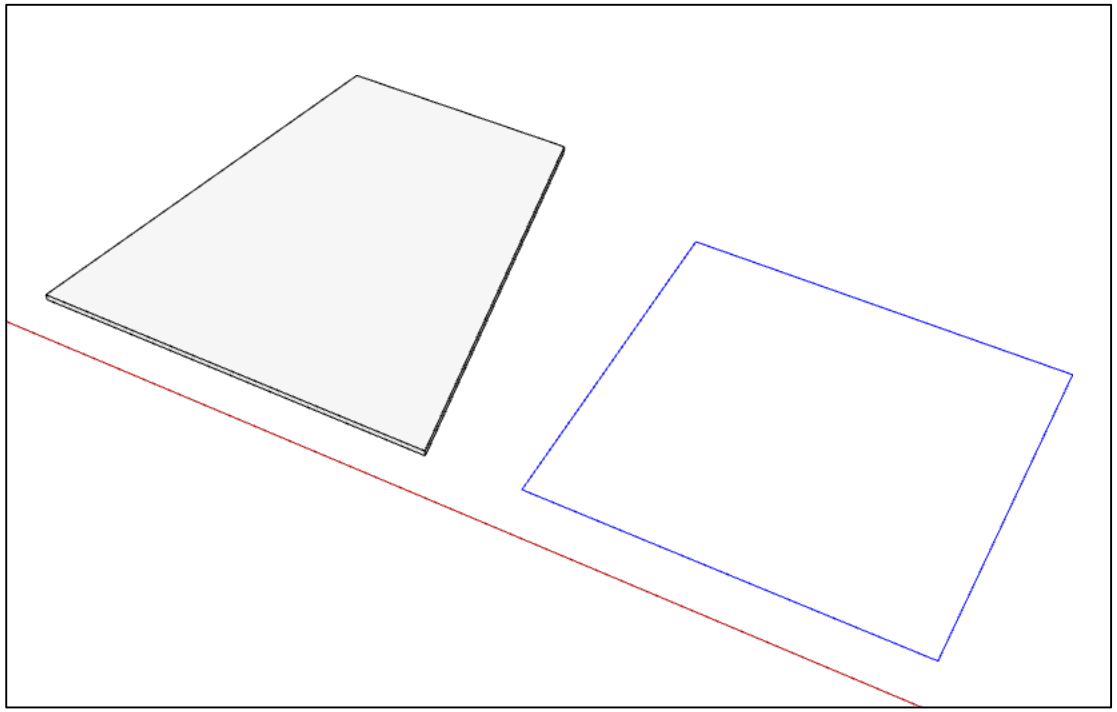




This is what you should be seeing now

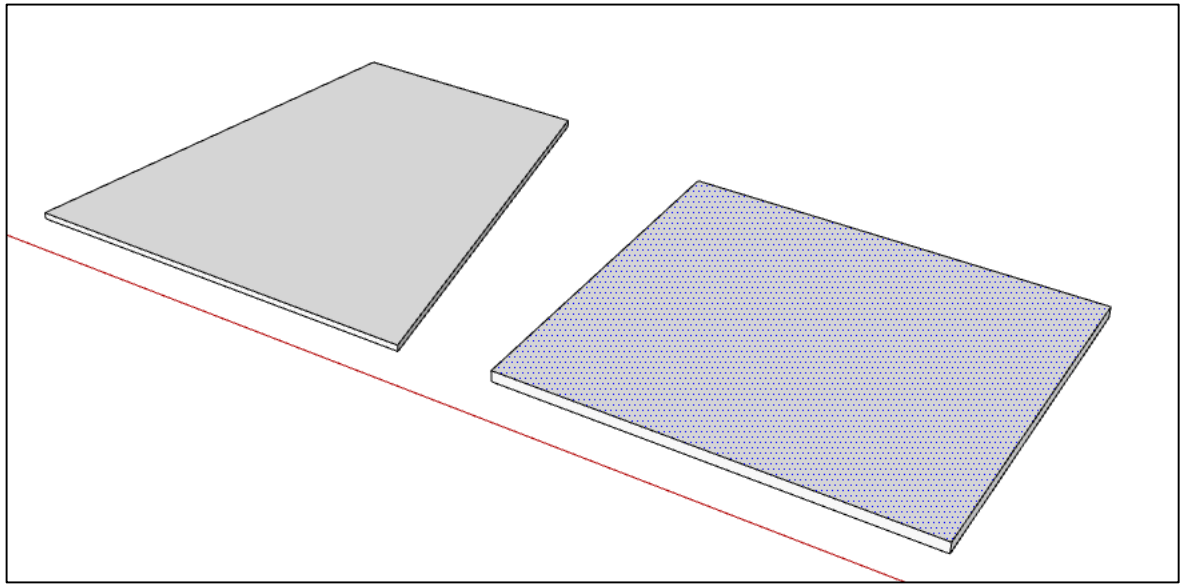
Using the **eraser** tool, remove the tape measure lines

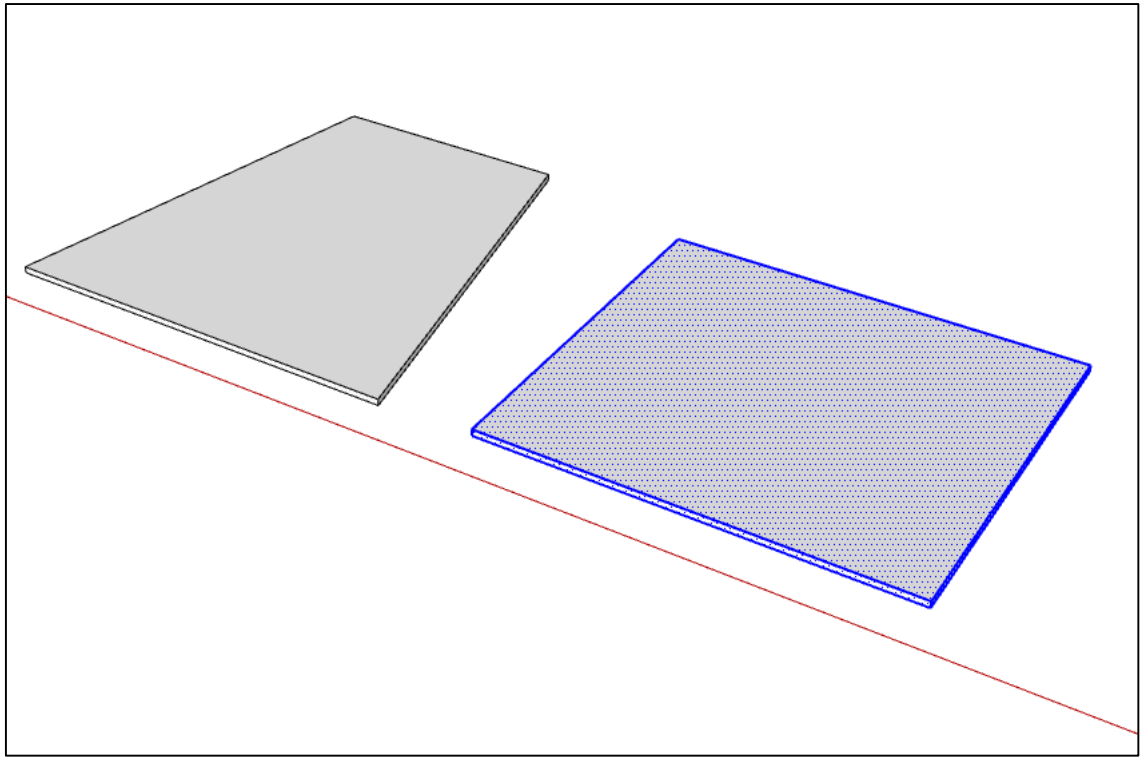




Create a rectangle using the **rectangle** tool that is **250, 220**. This is the back piece

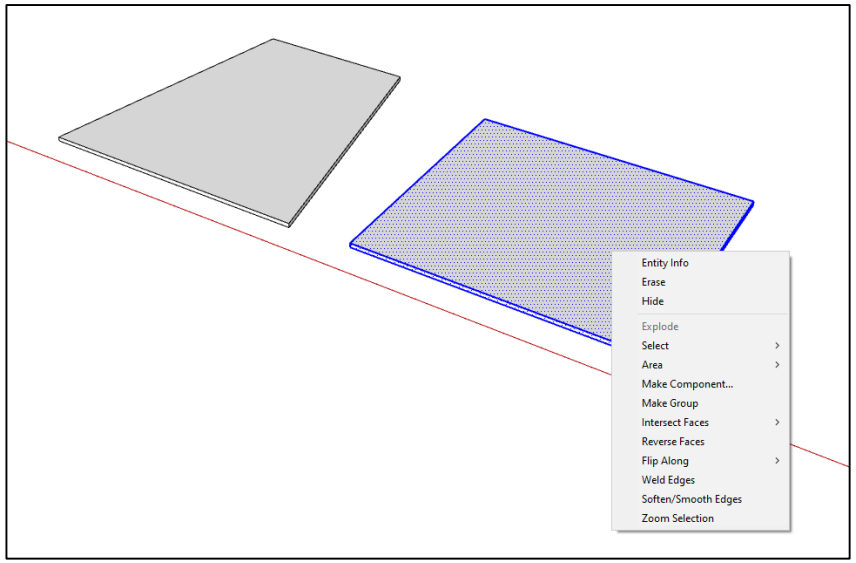
Use the **push pull** tool to extrude the rectangle by **4mm**

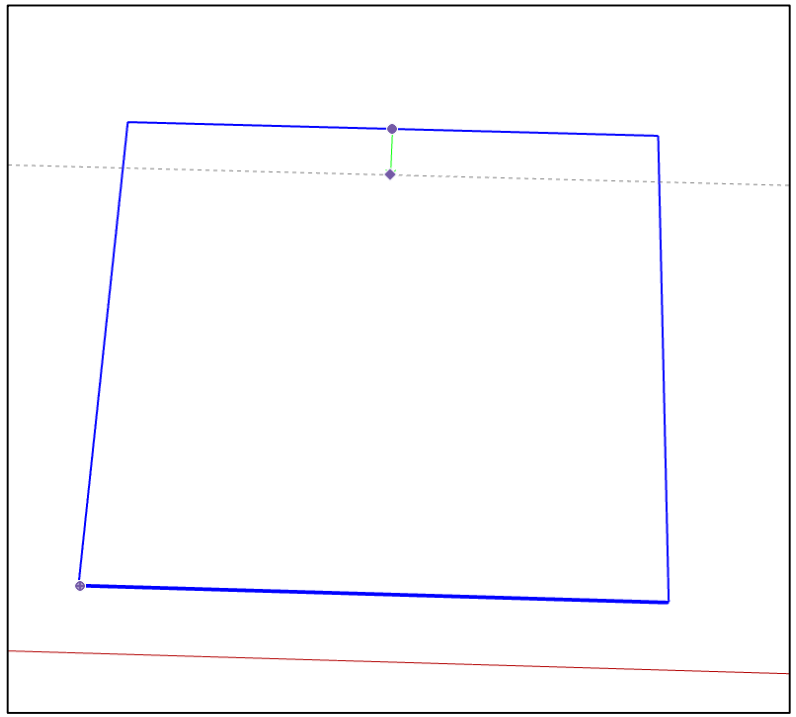




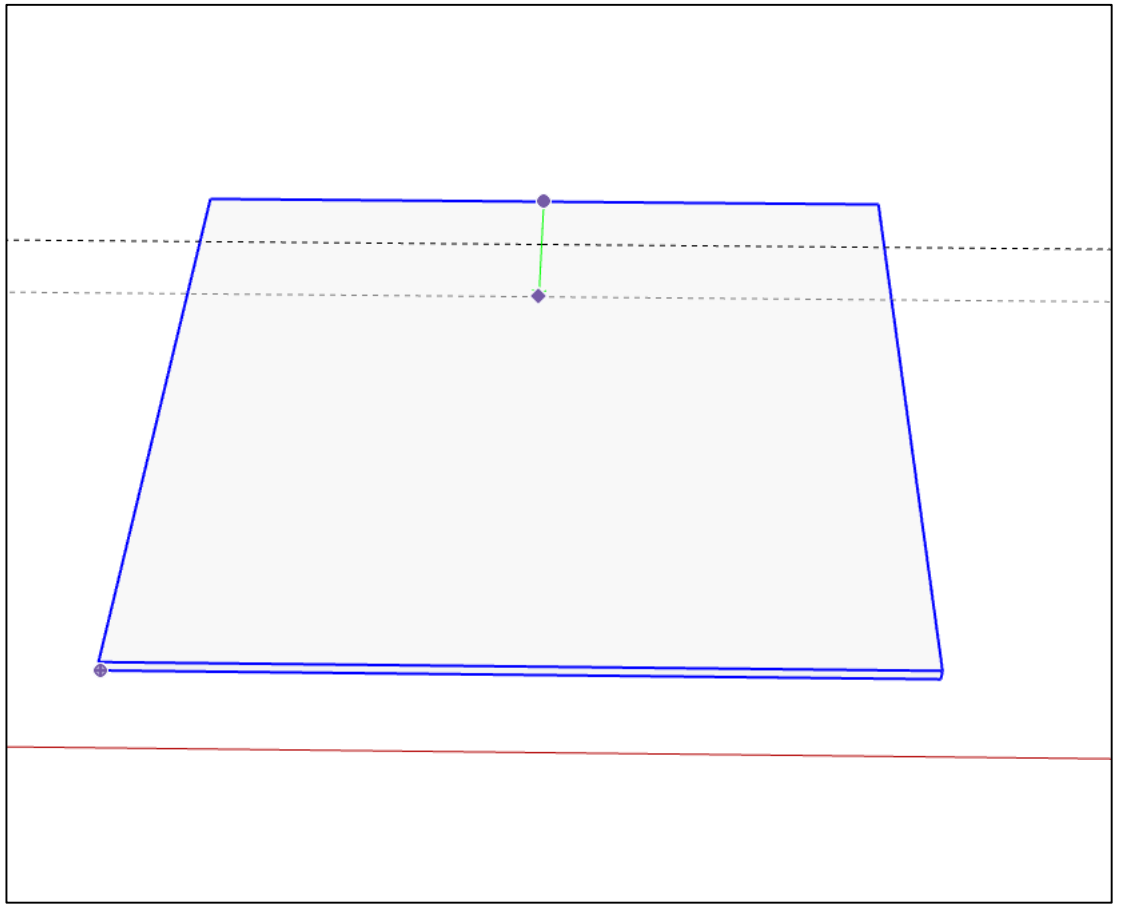
Using the **select** tool, triple click the rectangle to select it all

Right click and make component

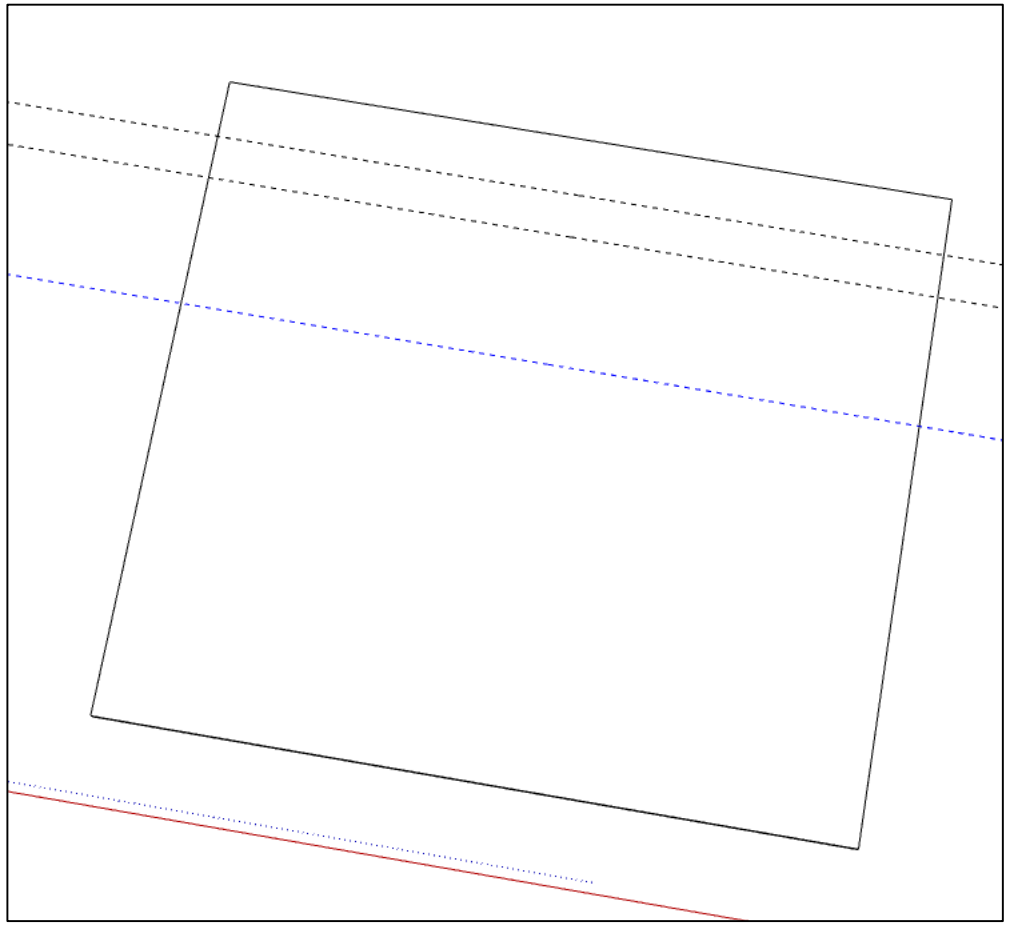




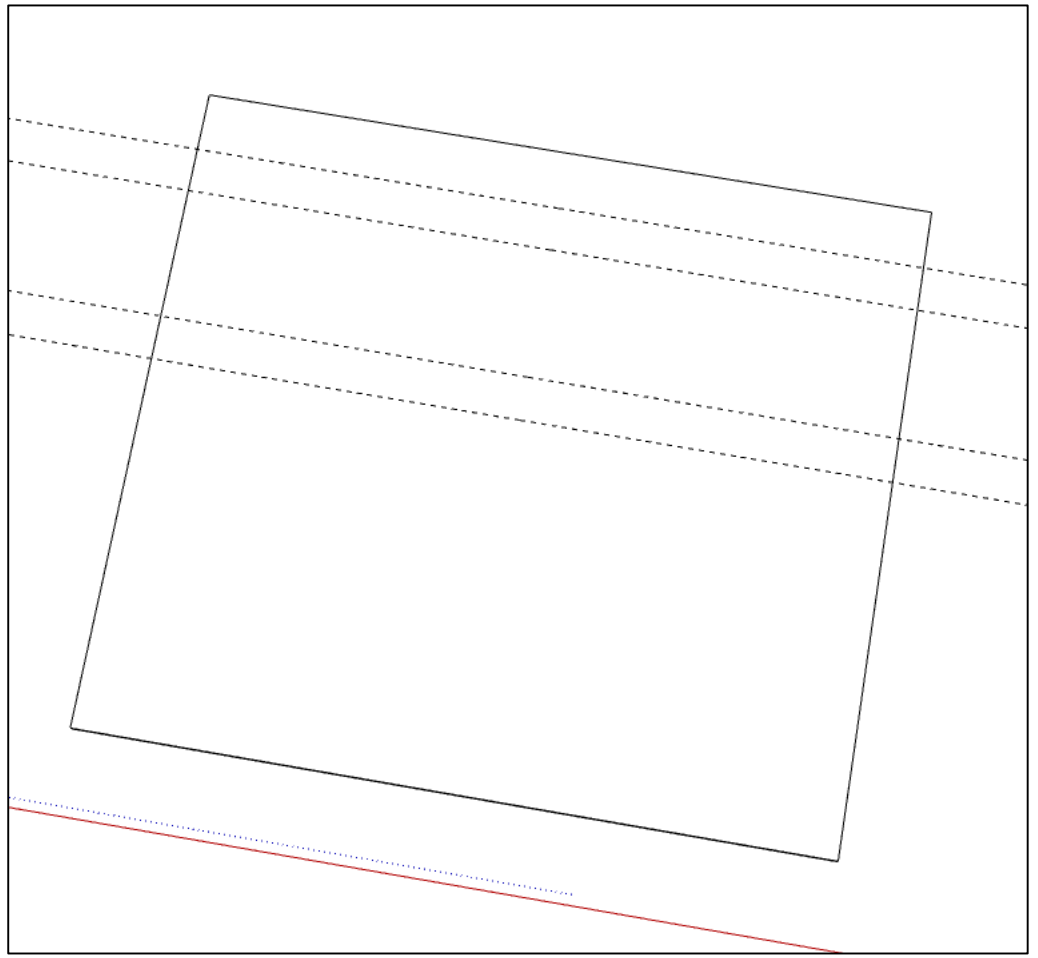
Using the **tape measure** tool, create a **20mm** guide line from the top edge



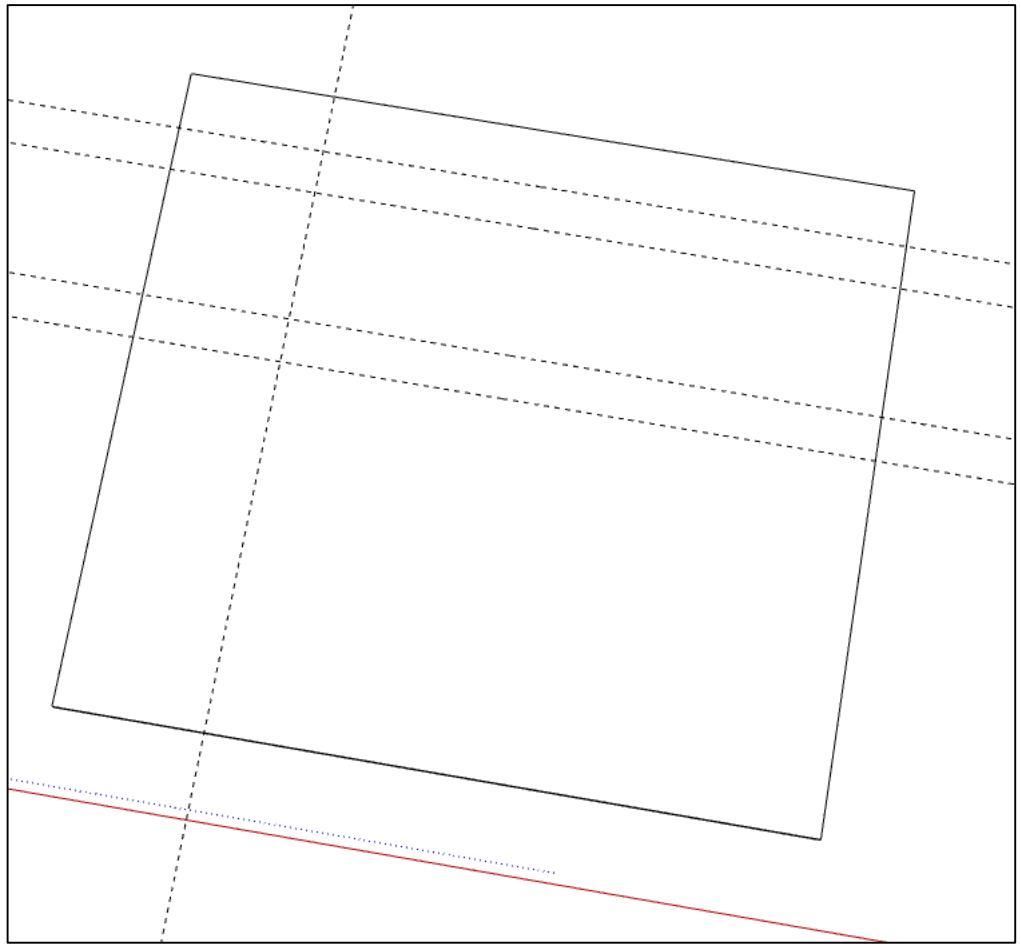
Using the **tape measure** tool again, create a guide line **35mm** from the top edge



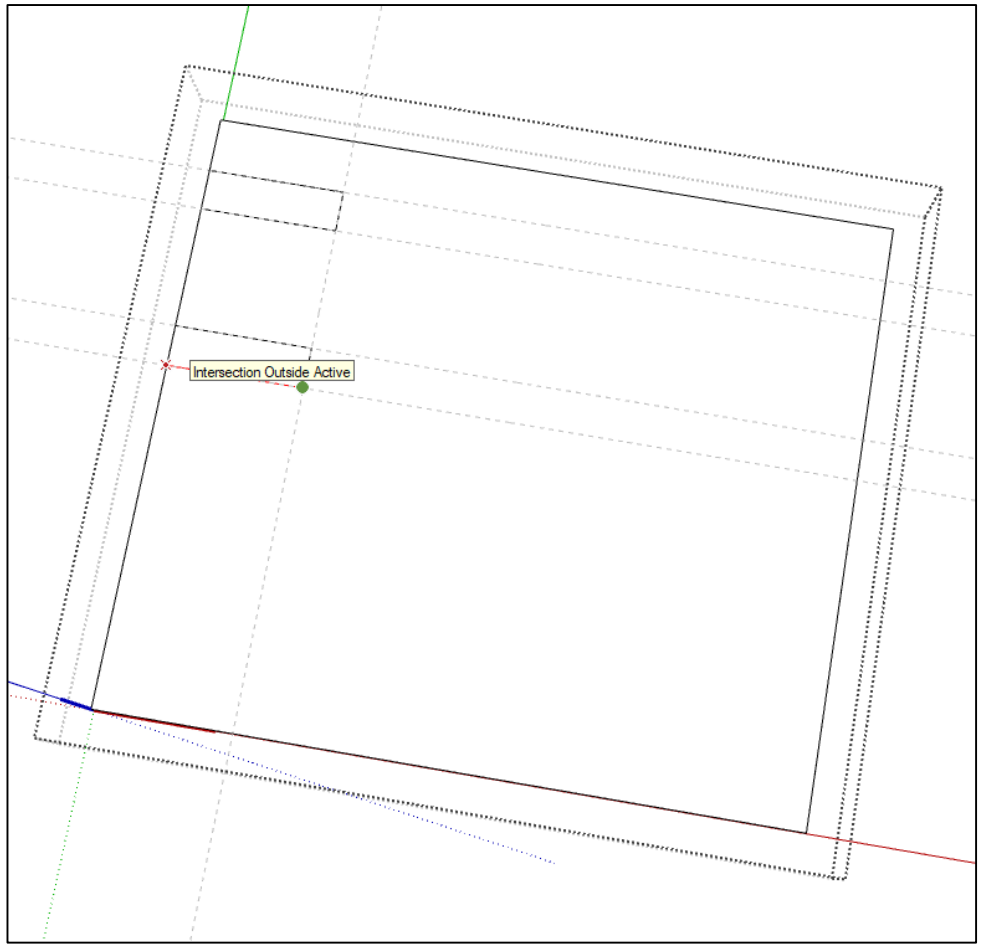
Create a guide line using the **tape measure** tool **80mm** from the top edge



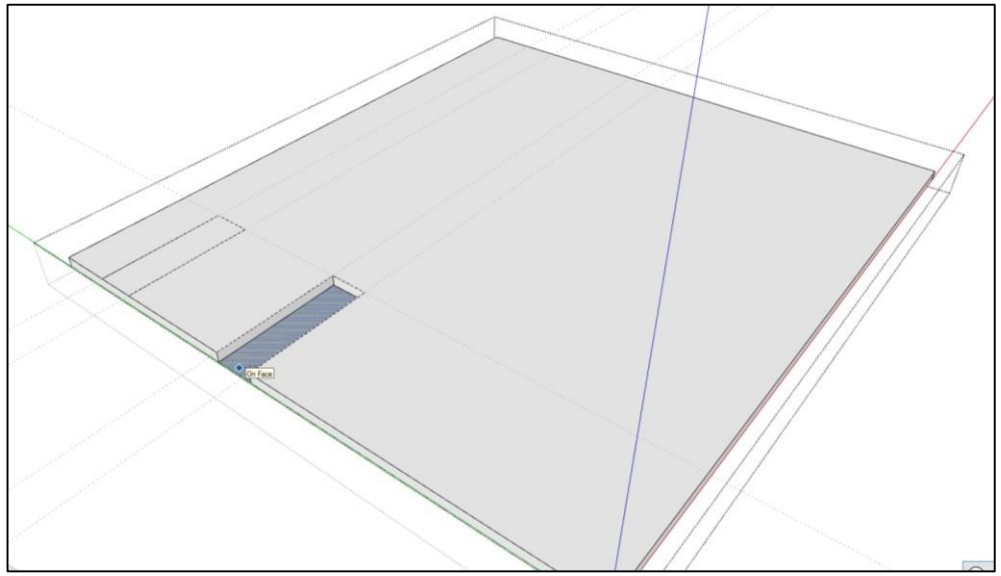
Create another guide line using the **tape measure** tool **95mm** from the top edge



Use the **tape measure** to give a 50mm guide from the left edge

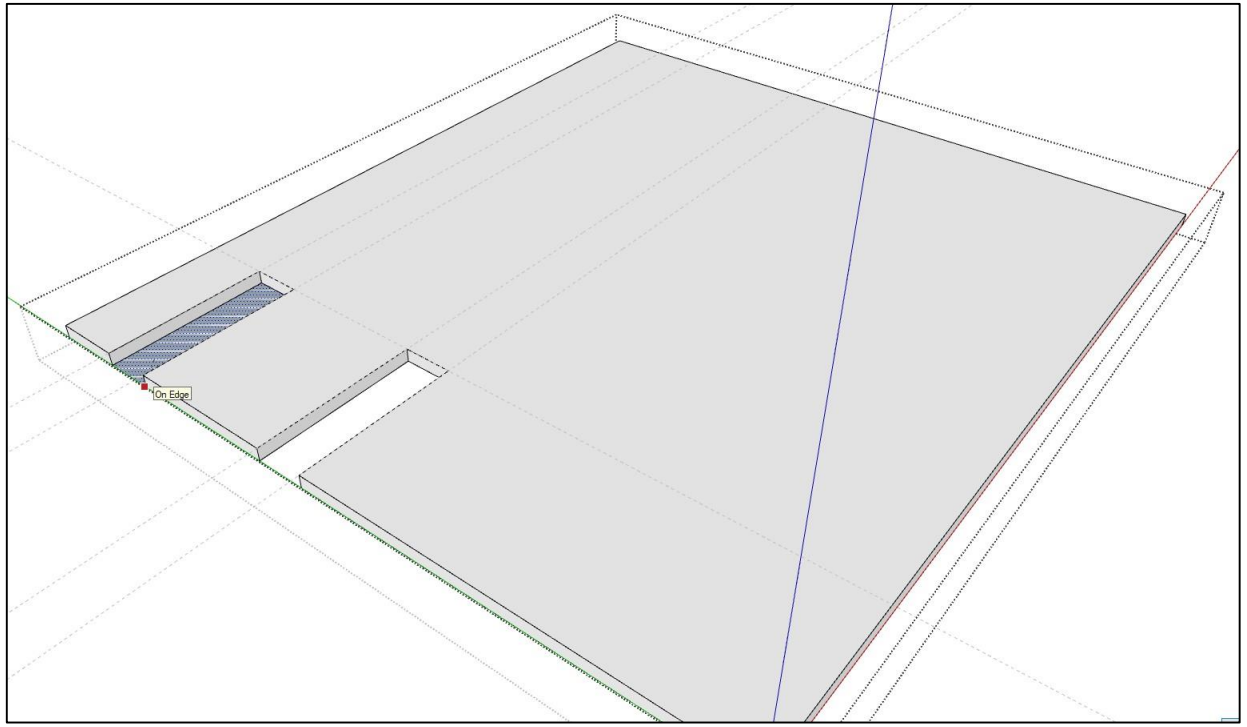


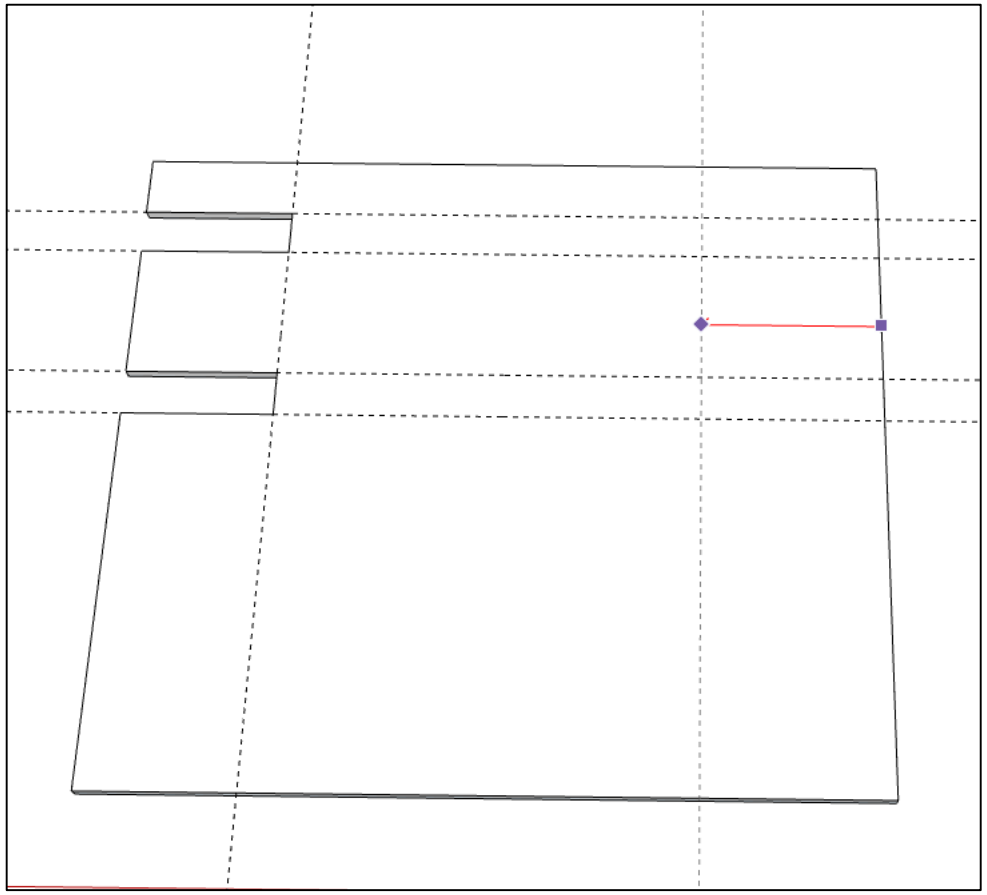
Double click to edit the component, then using the **pencil** tool to create the two shapes shown



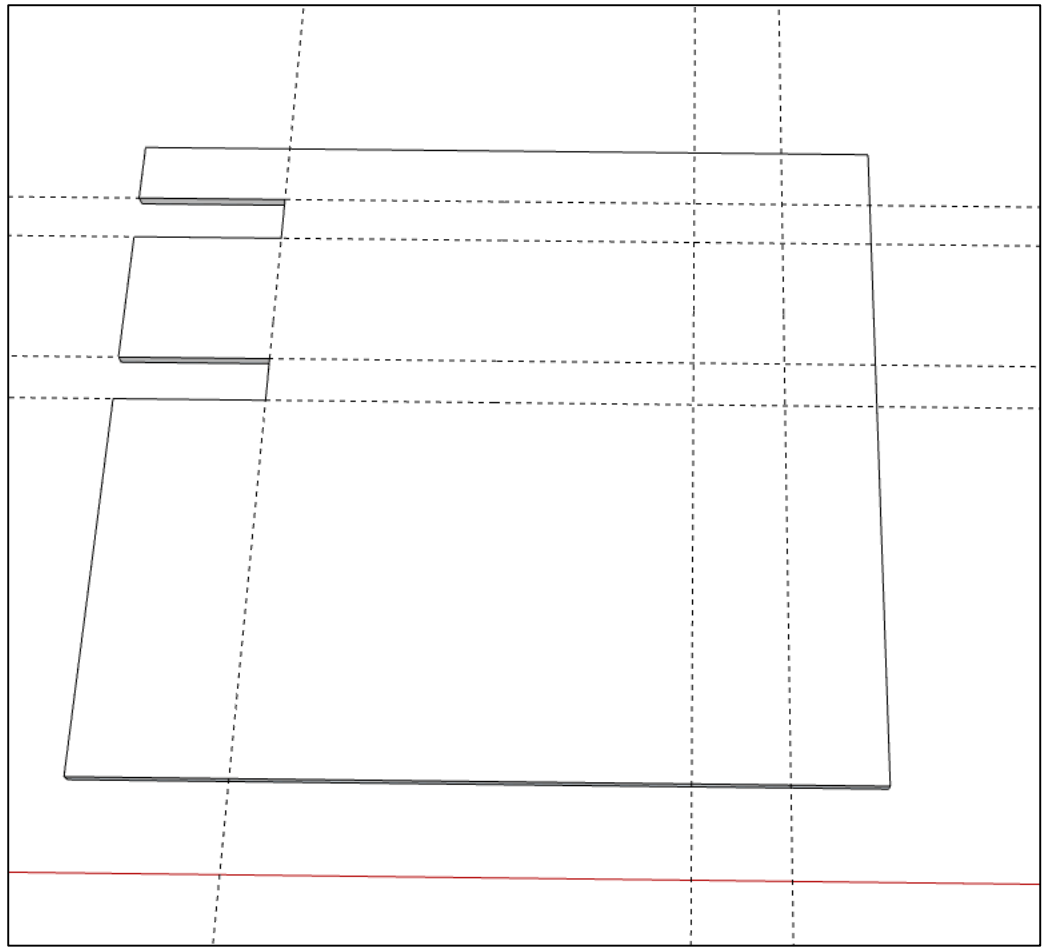
Using the **push pull** tool, push the shapes drawn 4mm down to remove them

Repeat for the both

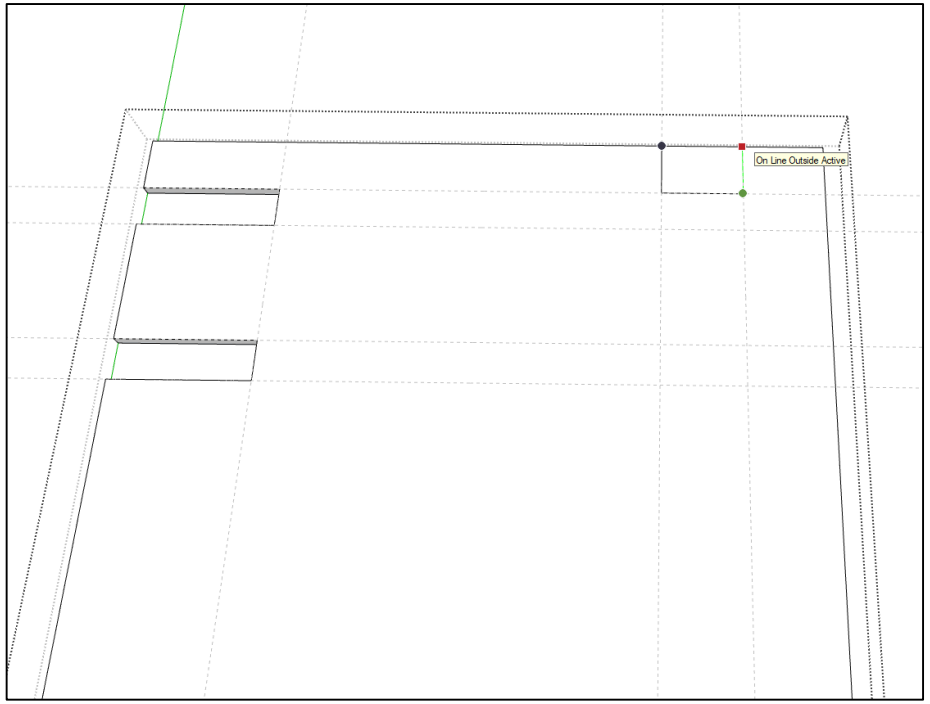




Using the **tape measure** tool. Create a guide line **60mm** from the right edge

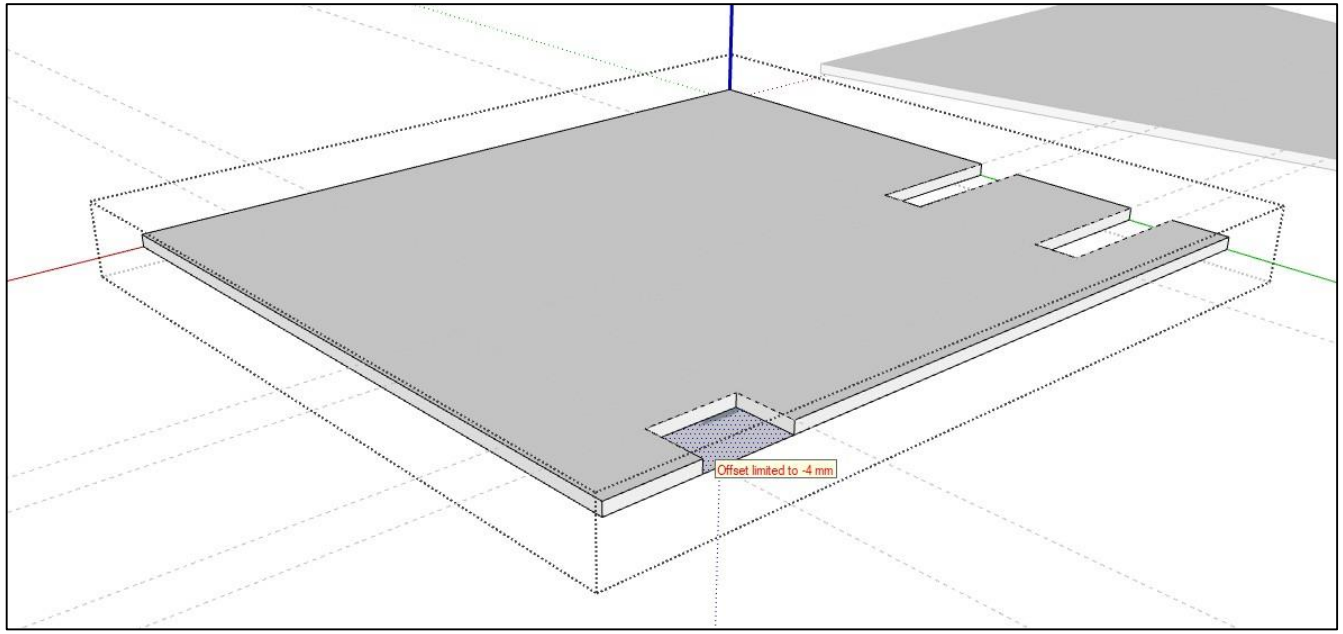


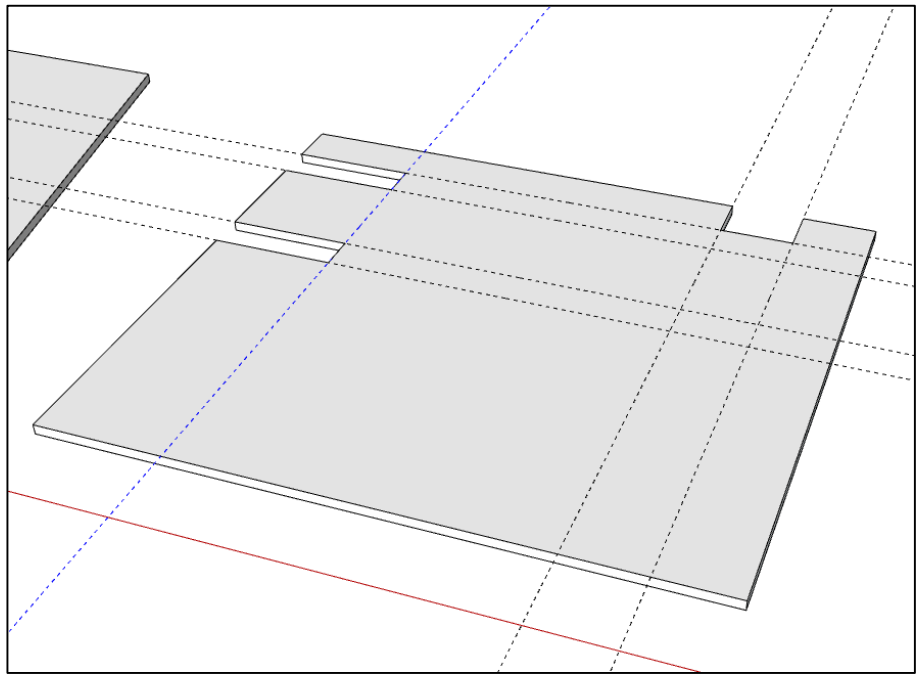
Create a guide line **30mm** from the right hand edge using the **tape measure** tool



Double click the component to edit it, then draw the shape shown to the left on the component using the **pencil** tool

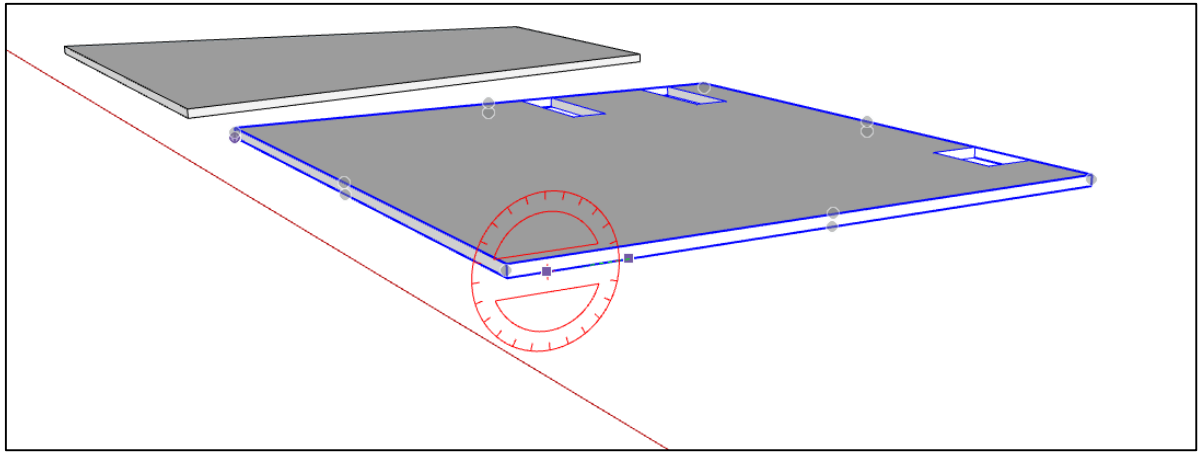
Using the **push pull** tool, push the selected surface down by 4mm

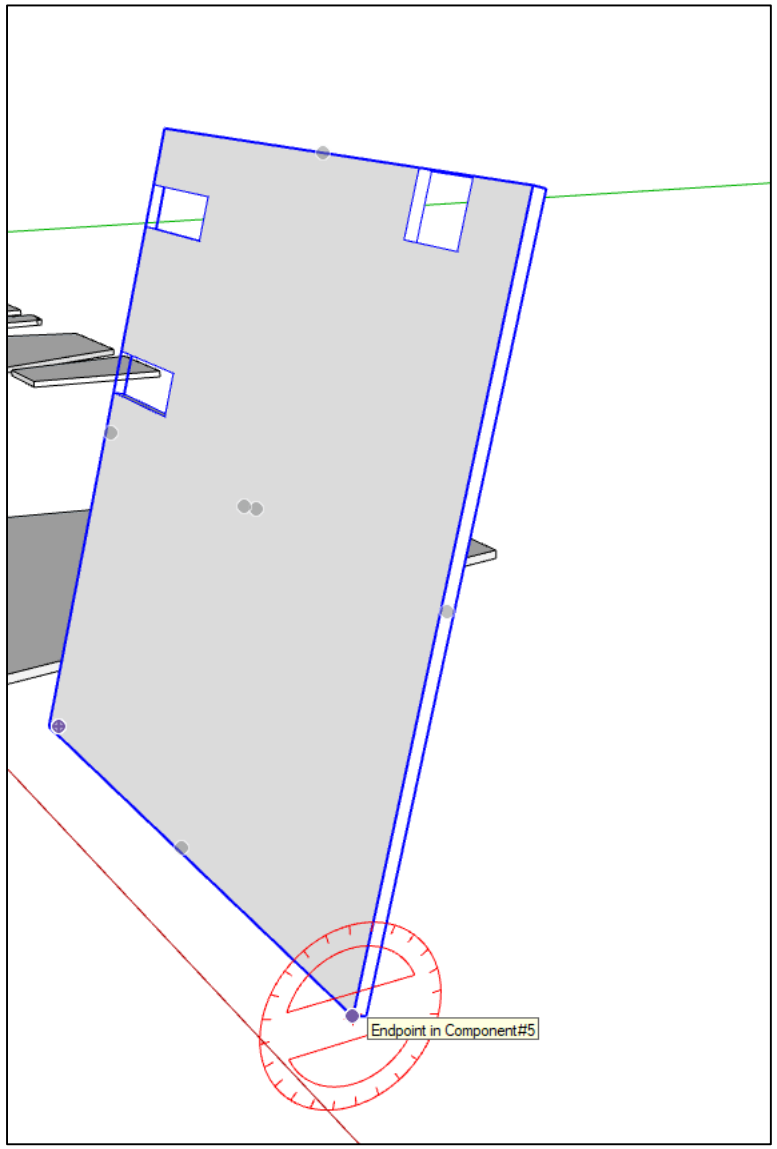




Using the **eraser** tool, delete the tape measure lines

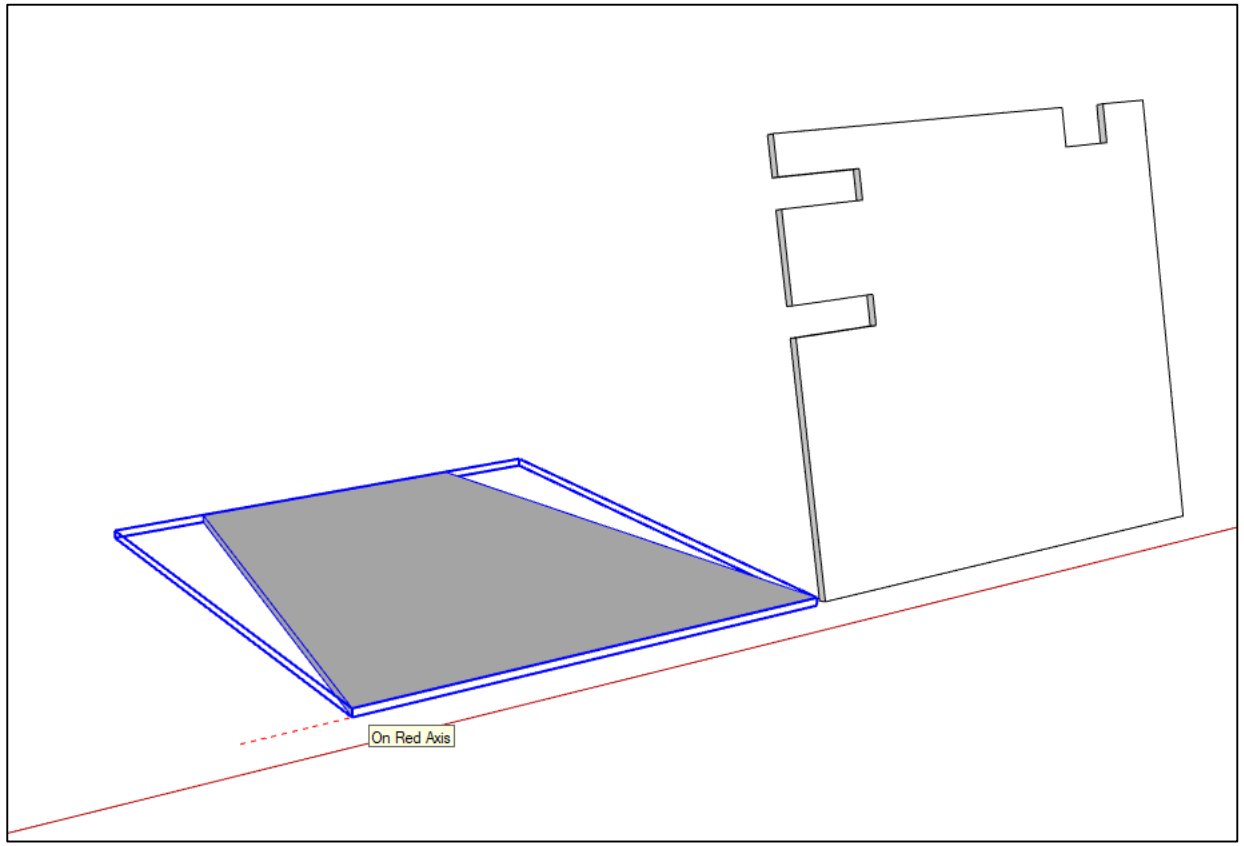
Using the **rotate** tool, ensure the tool is red, select a corner of the back piece and rotate by **75** degrees

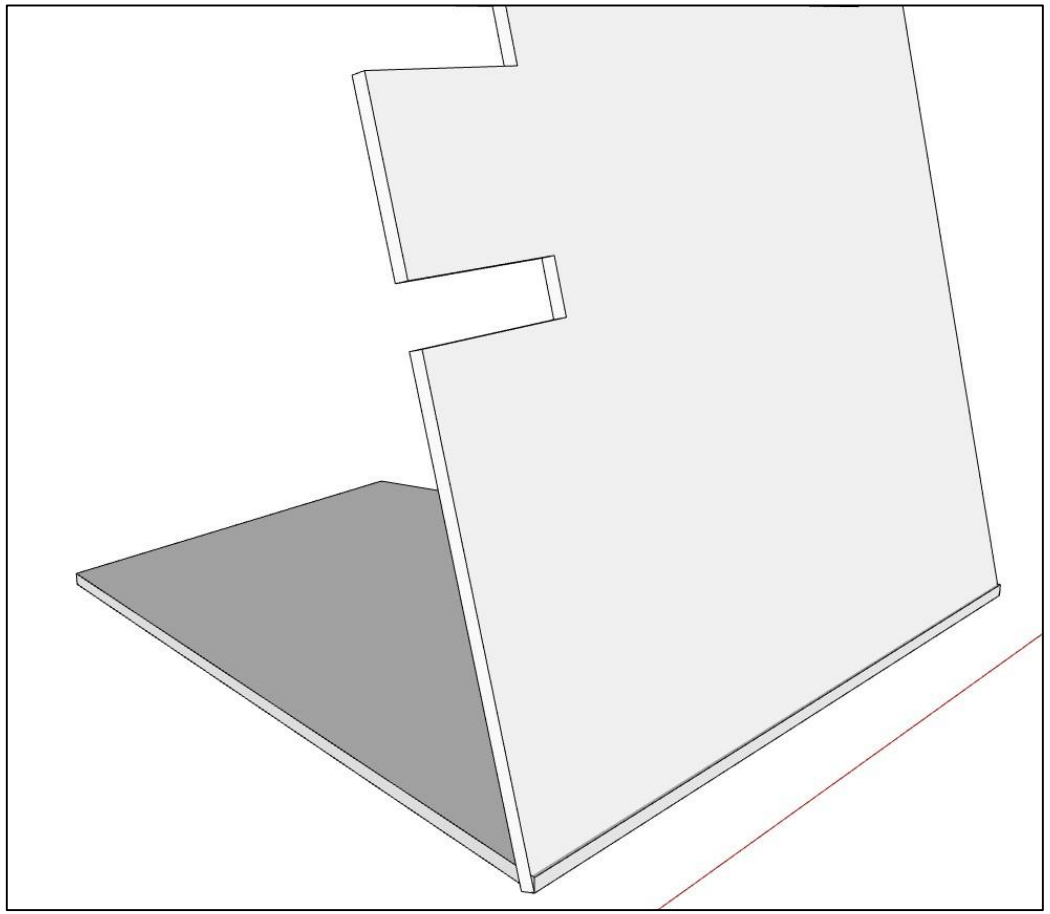




The back piece should now look something like this

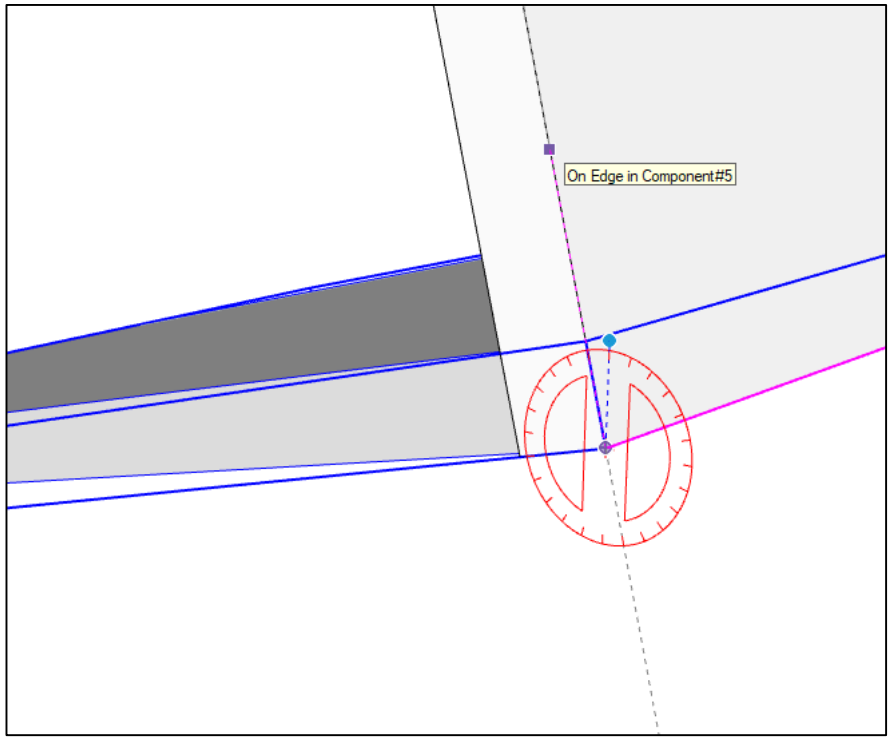
Using the **move** tool, grab the corner of the base

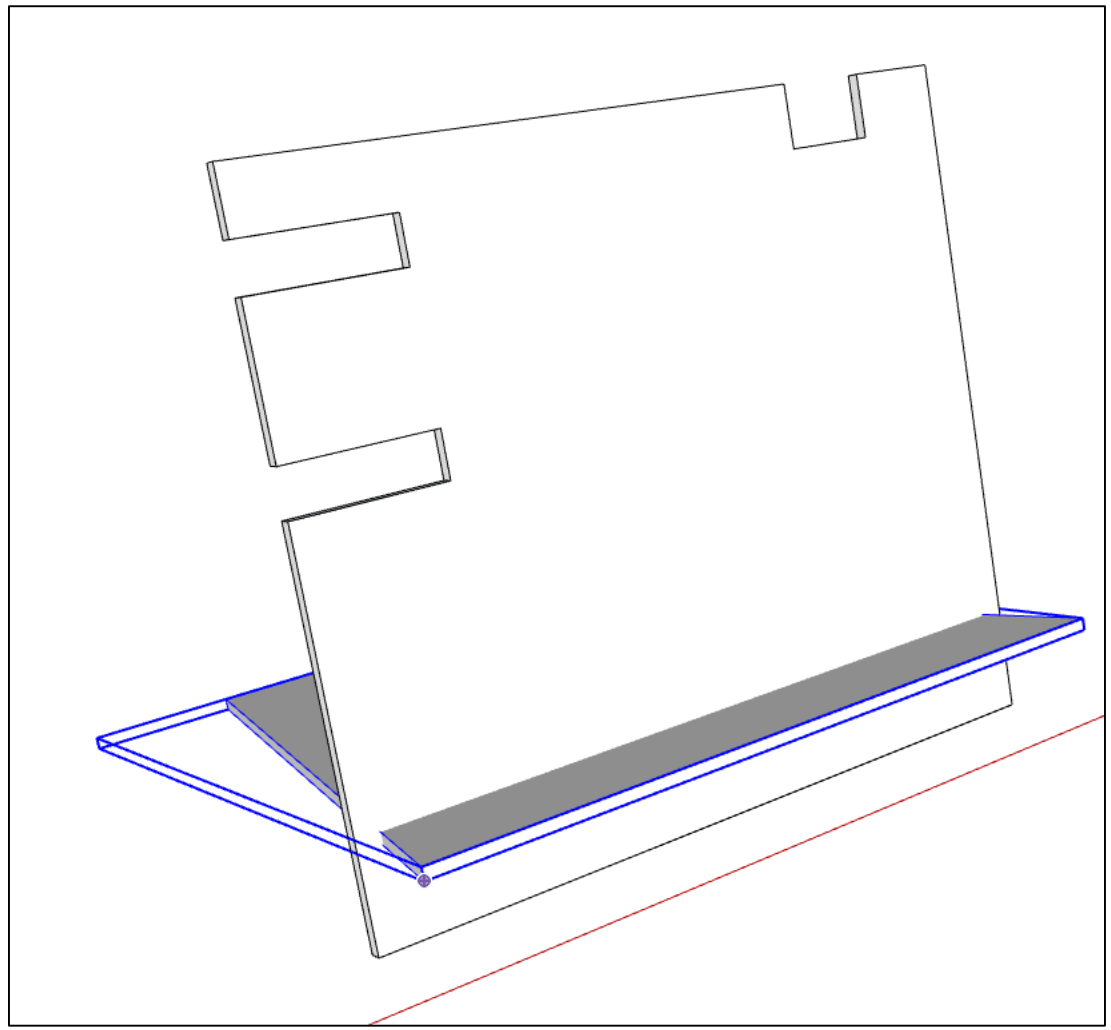




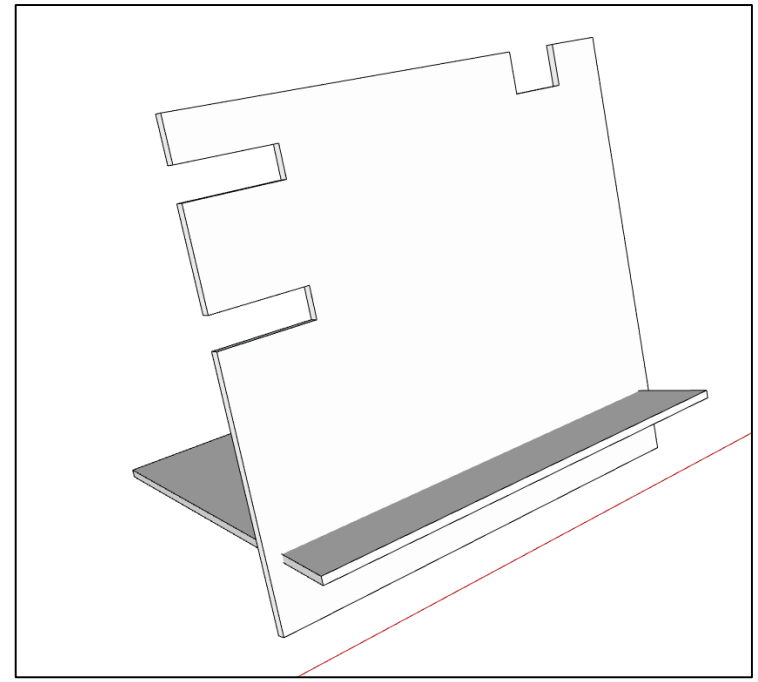
Move the base to the corner of the back piece.

Rotate the base by 15 degrees on the red axis

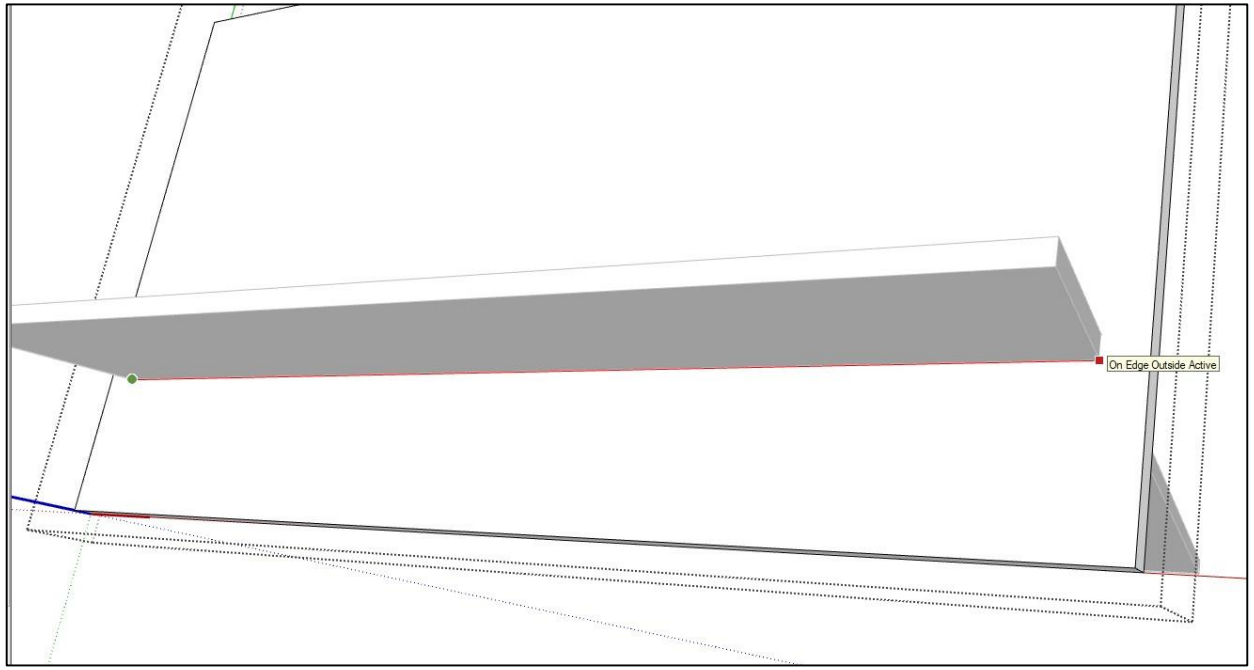




Move the base to a location you're happy with

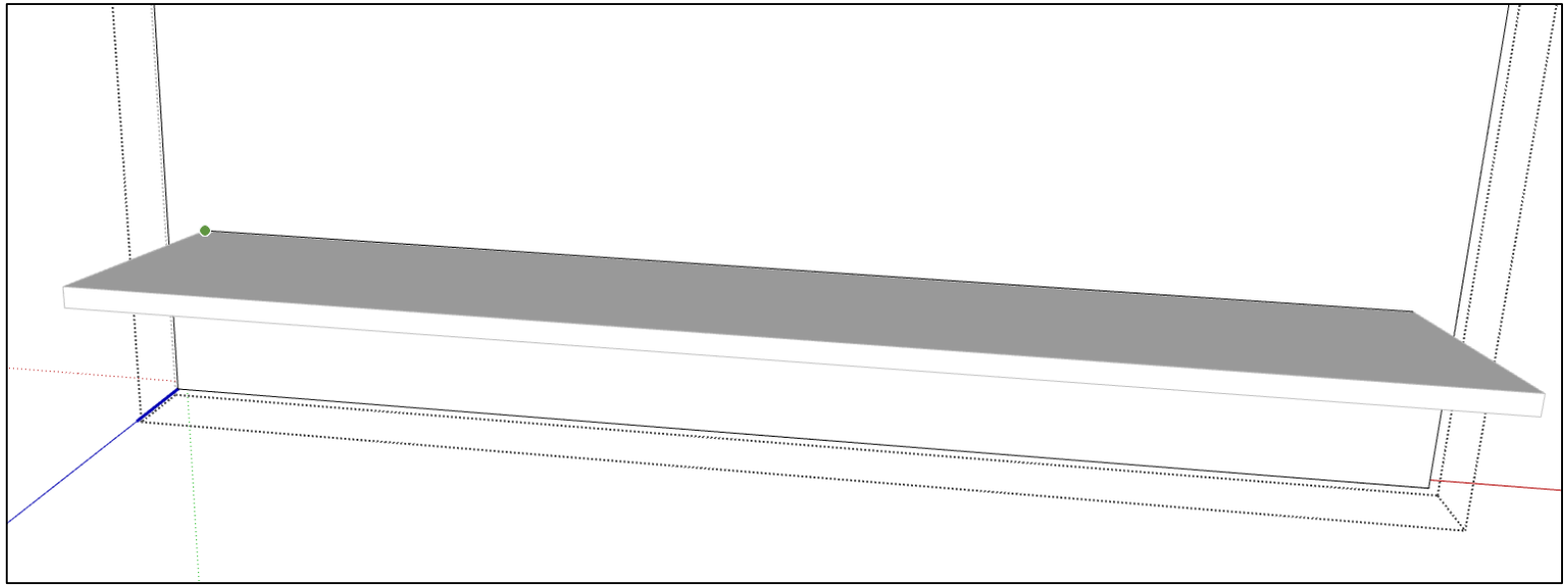


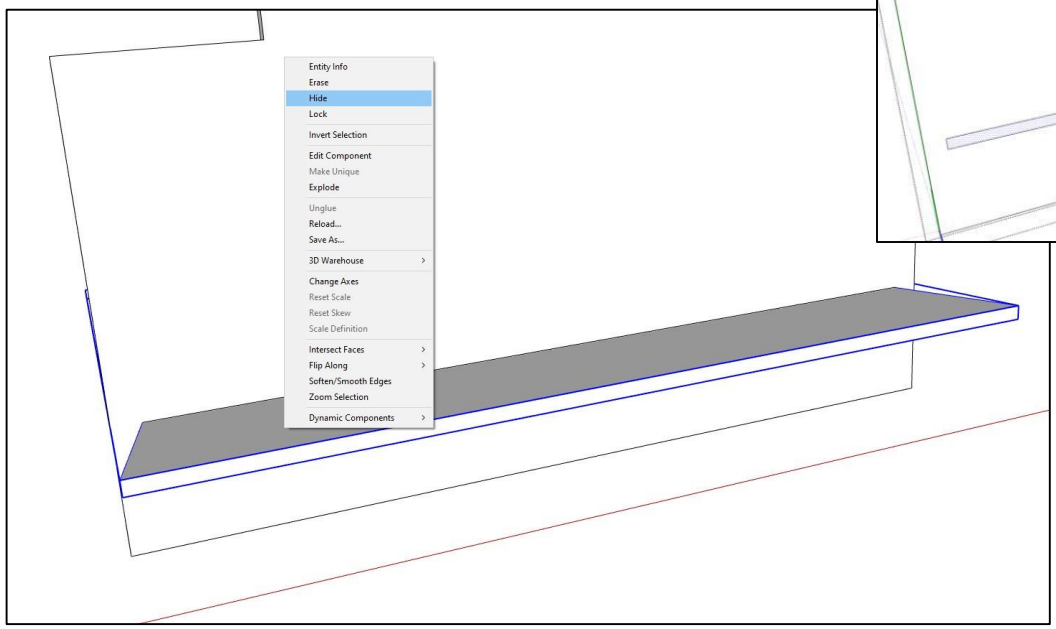
Something like this

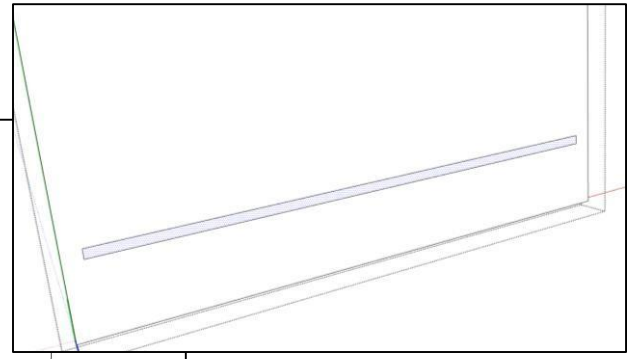


Using the **select** tool, double click the back to edit the component.

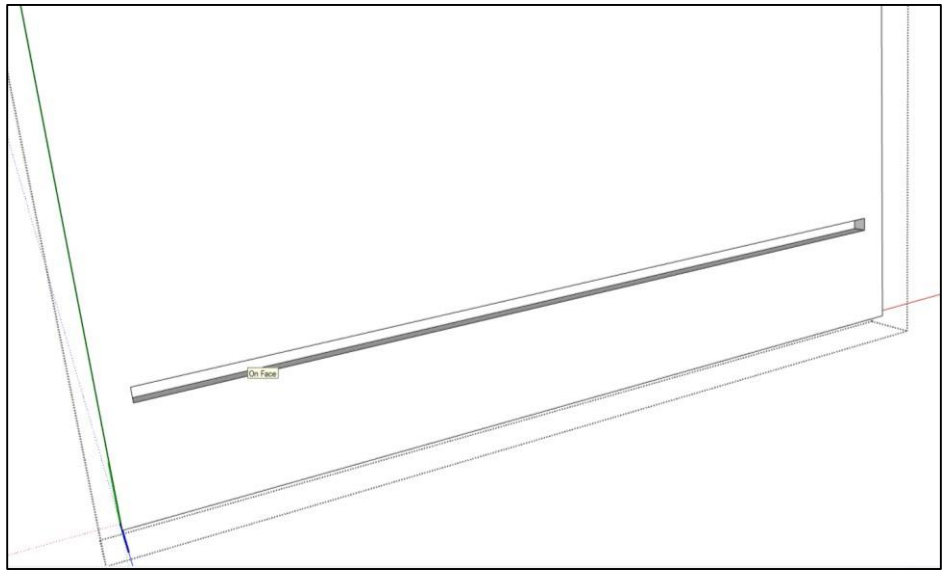
Using the **pencil** tool, create a box by selecting each corner where the base touches the back piece



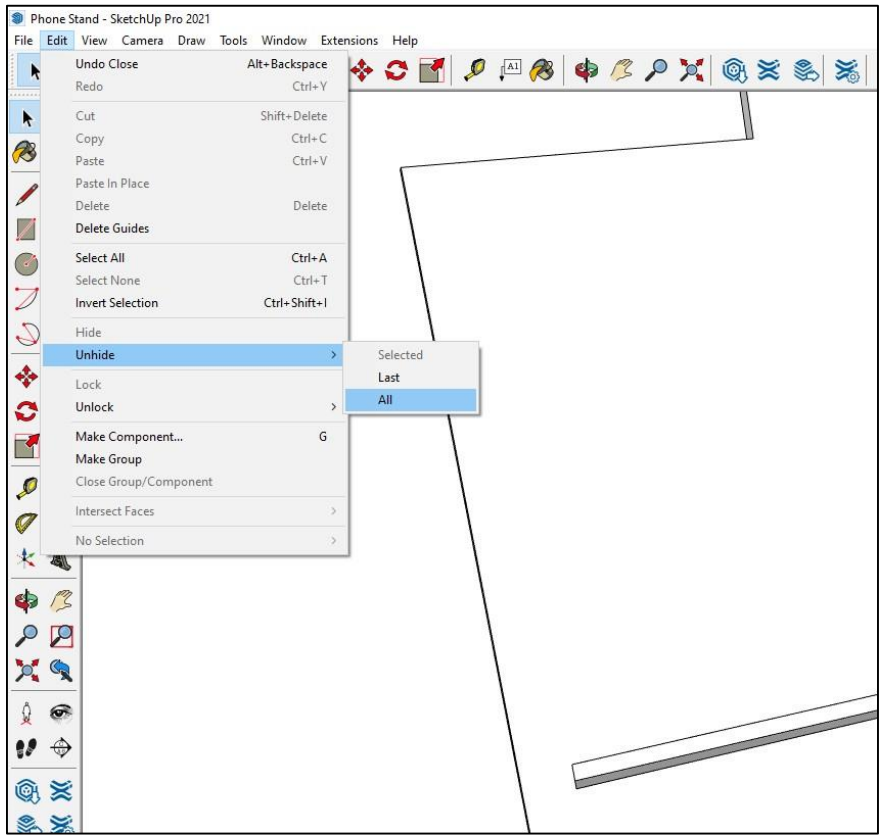




Select the base piece, right click and hide the base.

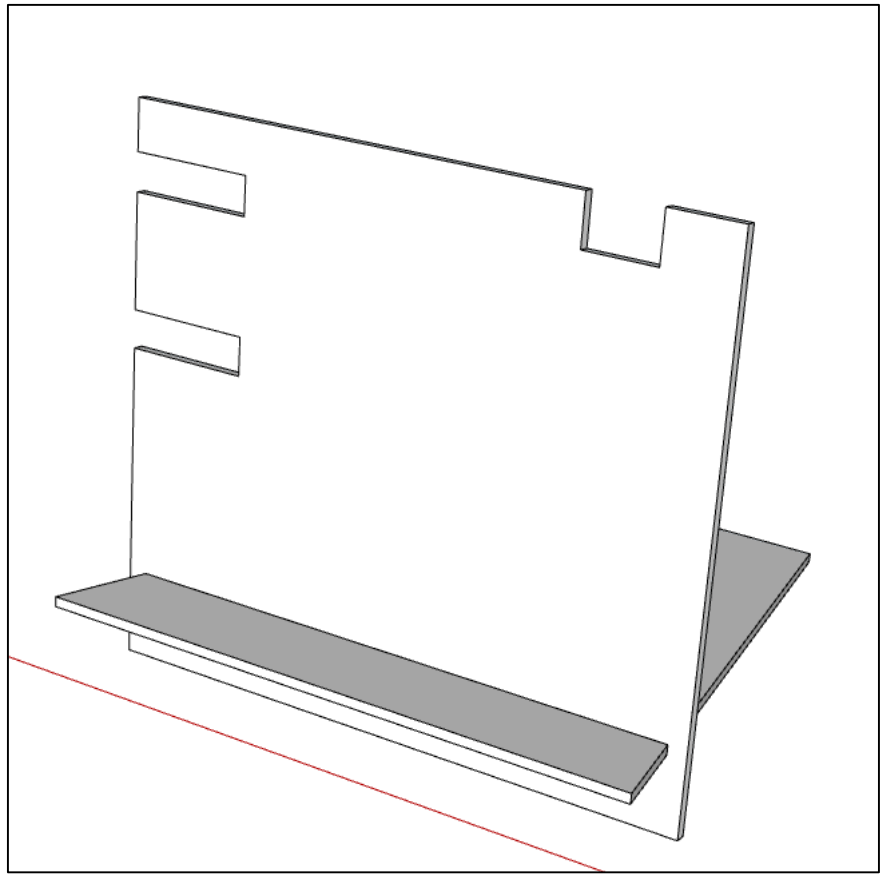


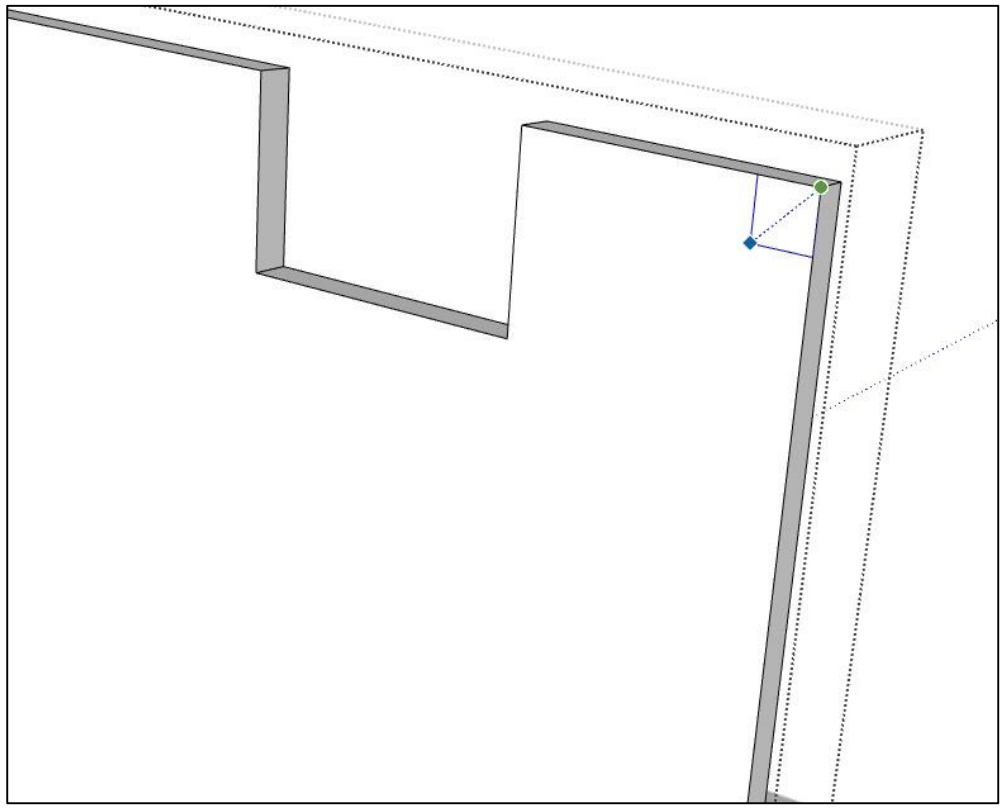
Double click the back piece to edit and use the **push pull** tool to create a space in the back piece



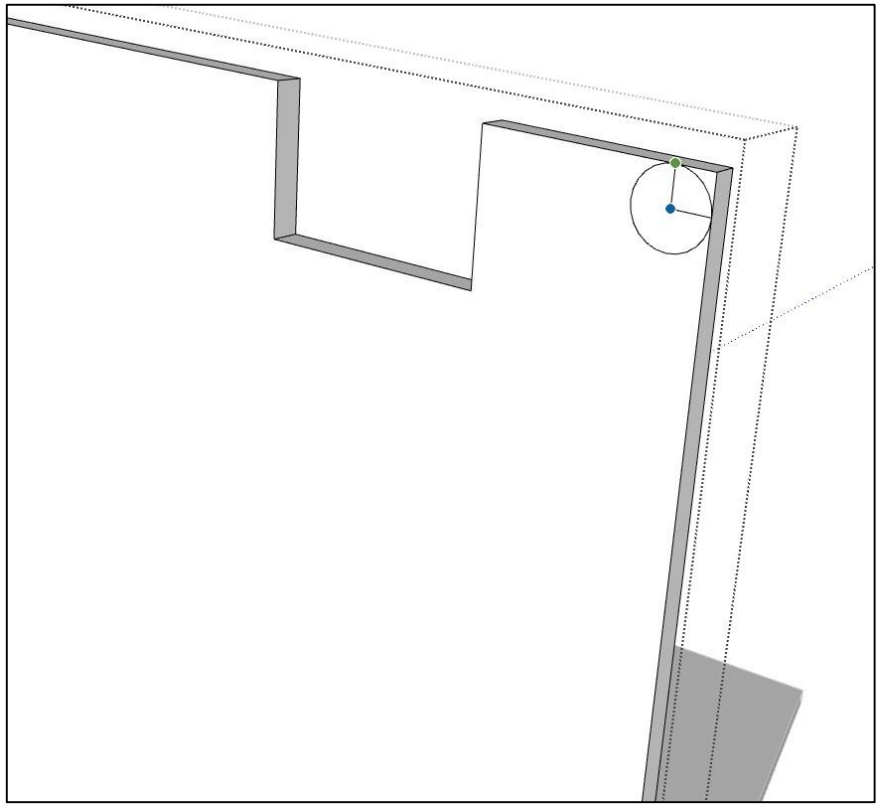
Select the edit button at the top of the screen,
Edit>Unhide>All

This is what you should be seeing

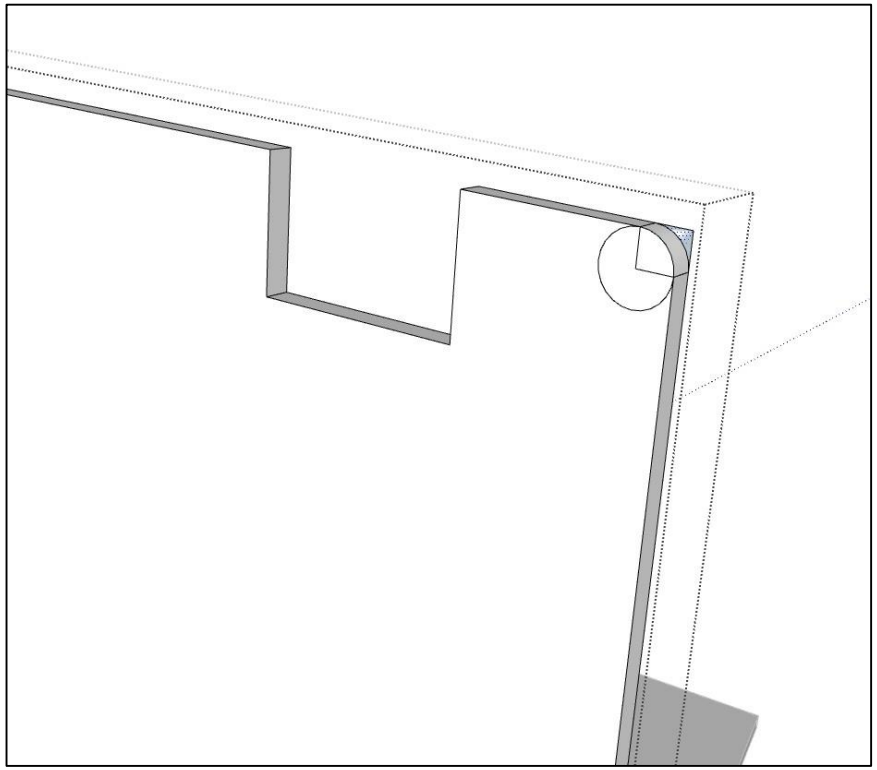




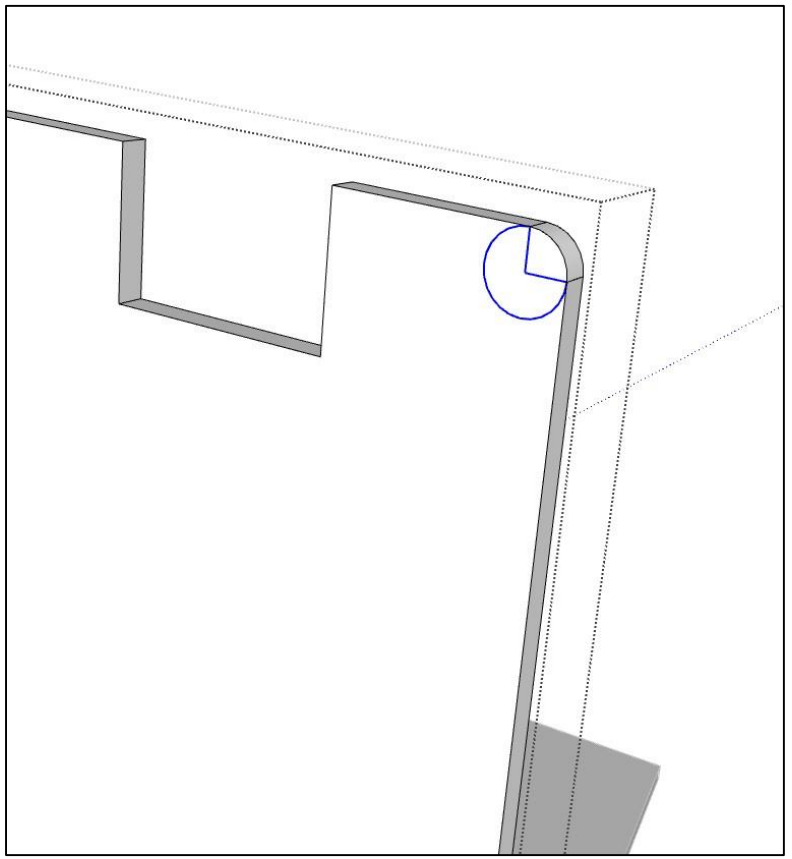
Double click the back piece to edit the component. Using the **rectangle** tool, create a square in the top right corner. 5x5mm



Select the **circle** tool and create a circle going from the inside corner of the square to the edge of the back piece like the image shown.

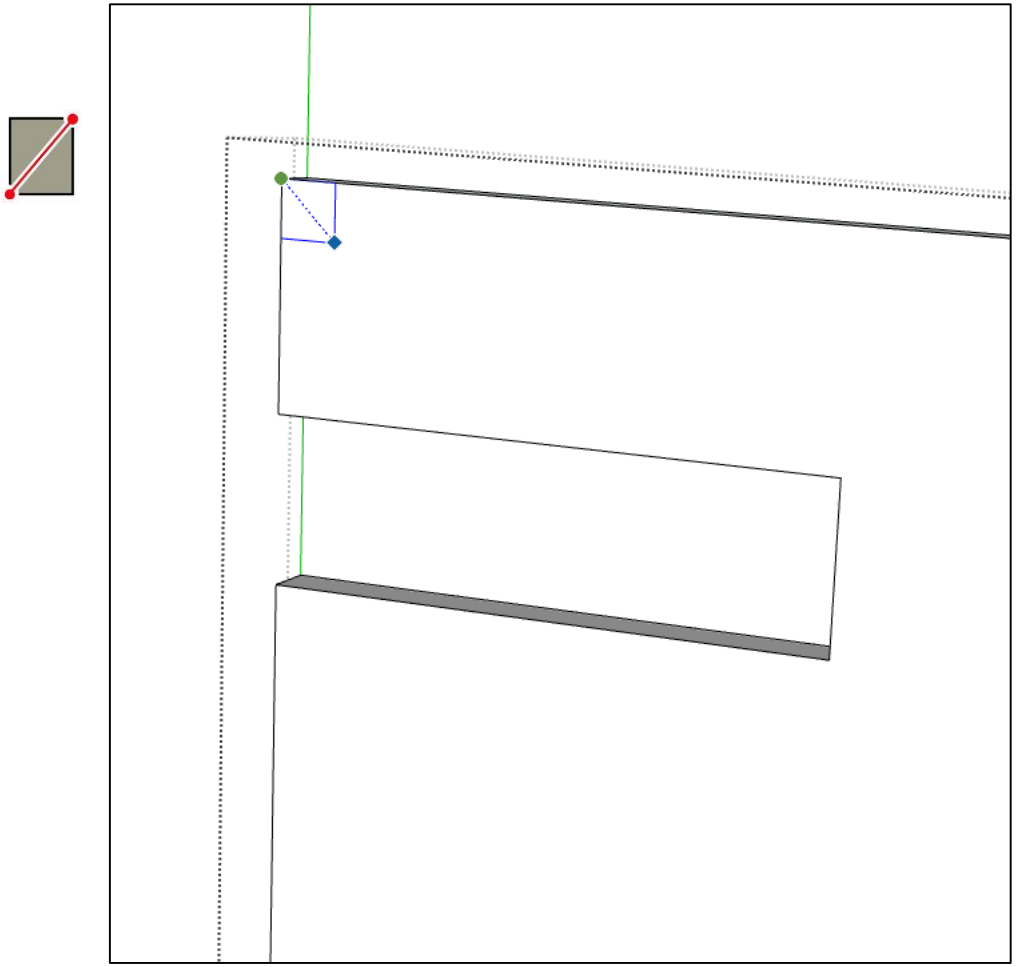


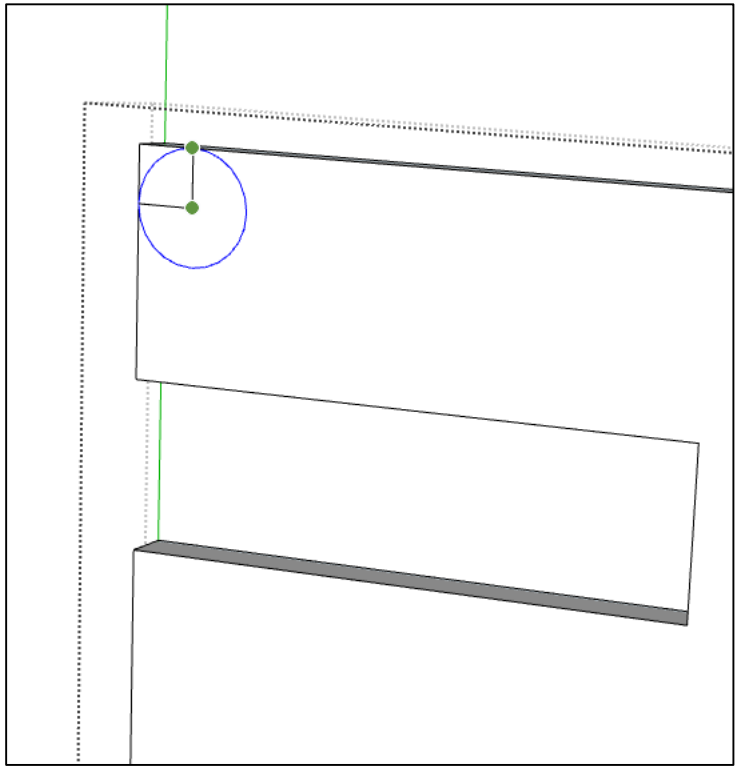
Using the **push pull** tool, remove the outer corner of the back piece to create a rounded corner

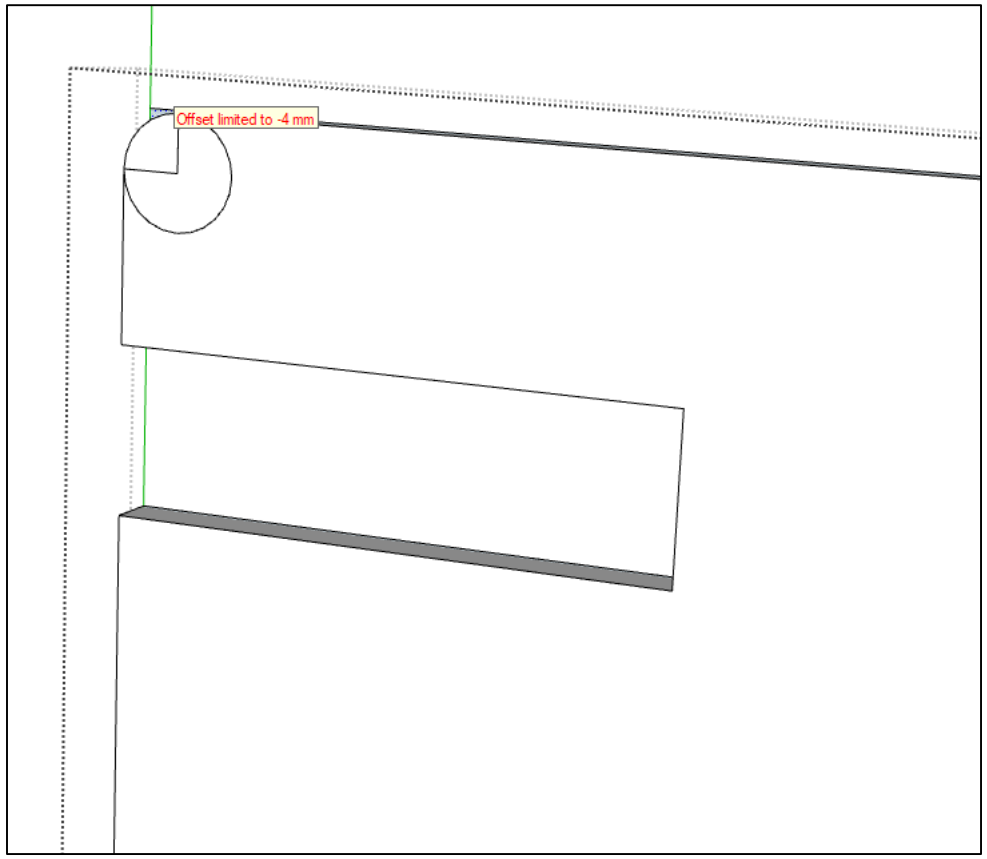


Use the **eraser** tool to remove the highlighted shapes

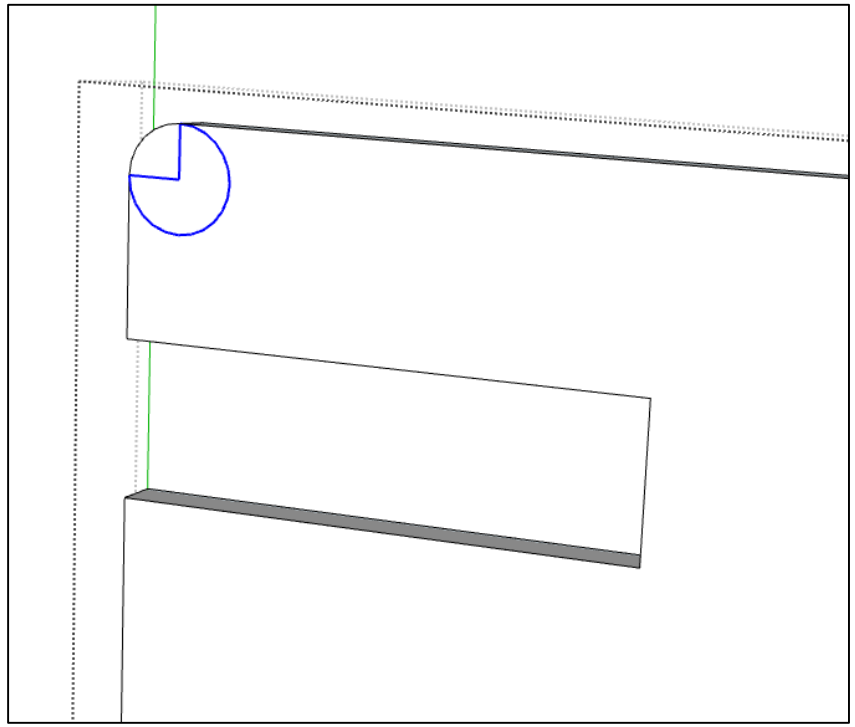
Repeat the same process for the top left corner of the back piece

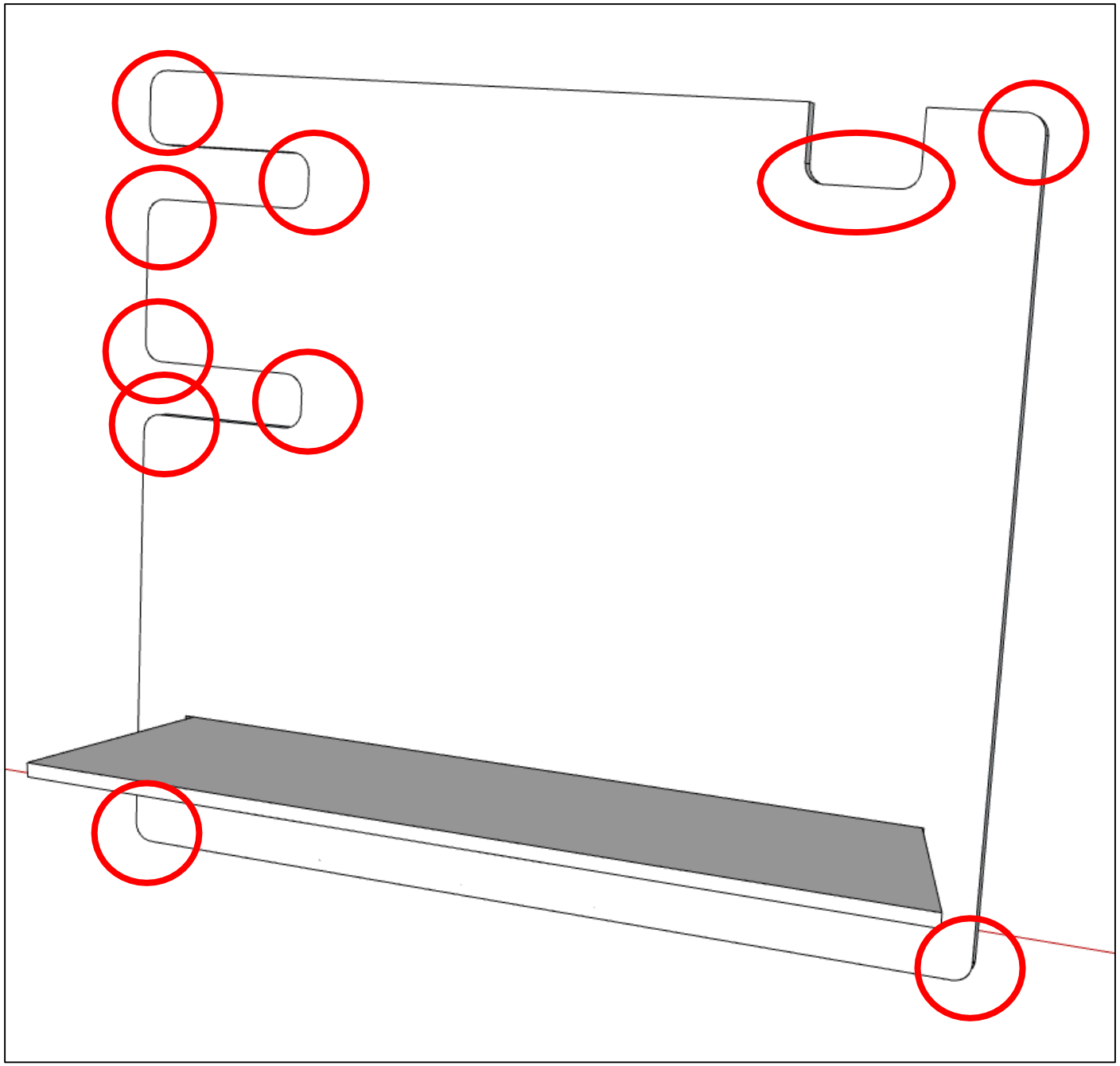





Offset limited to -4 mm


pink





Repeat for all corners

Using the skills learned, you can now add your own gadget storage space