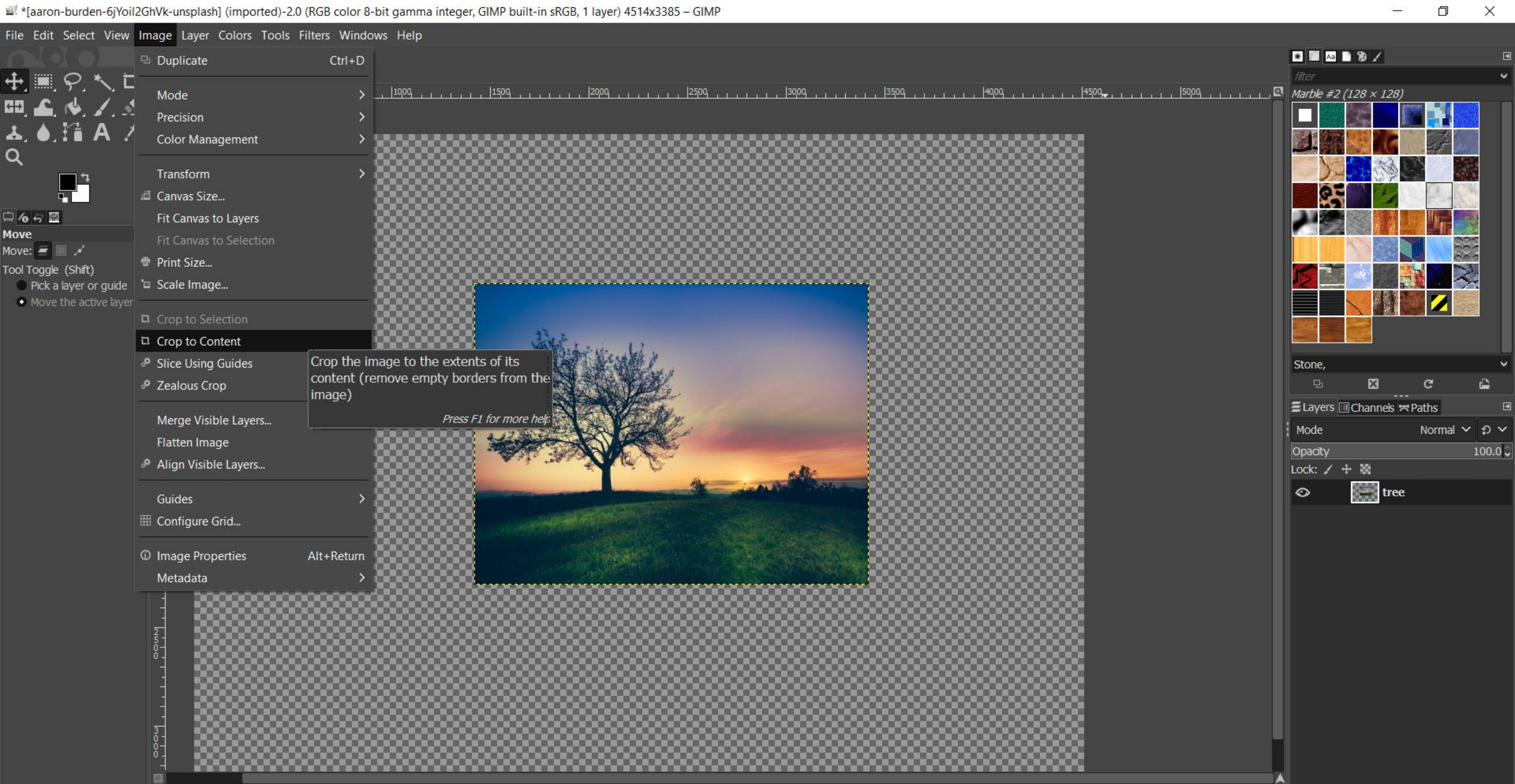
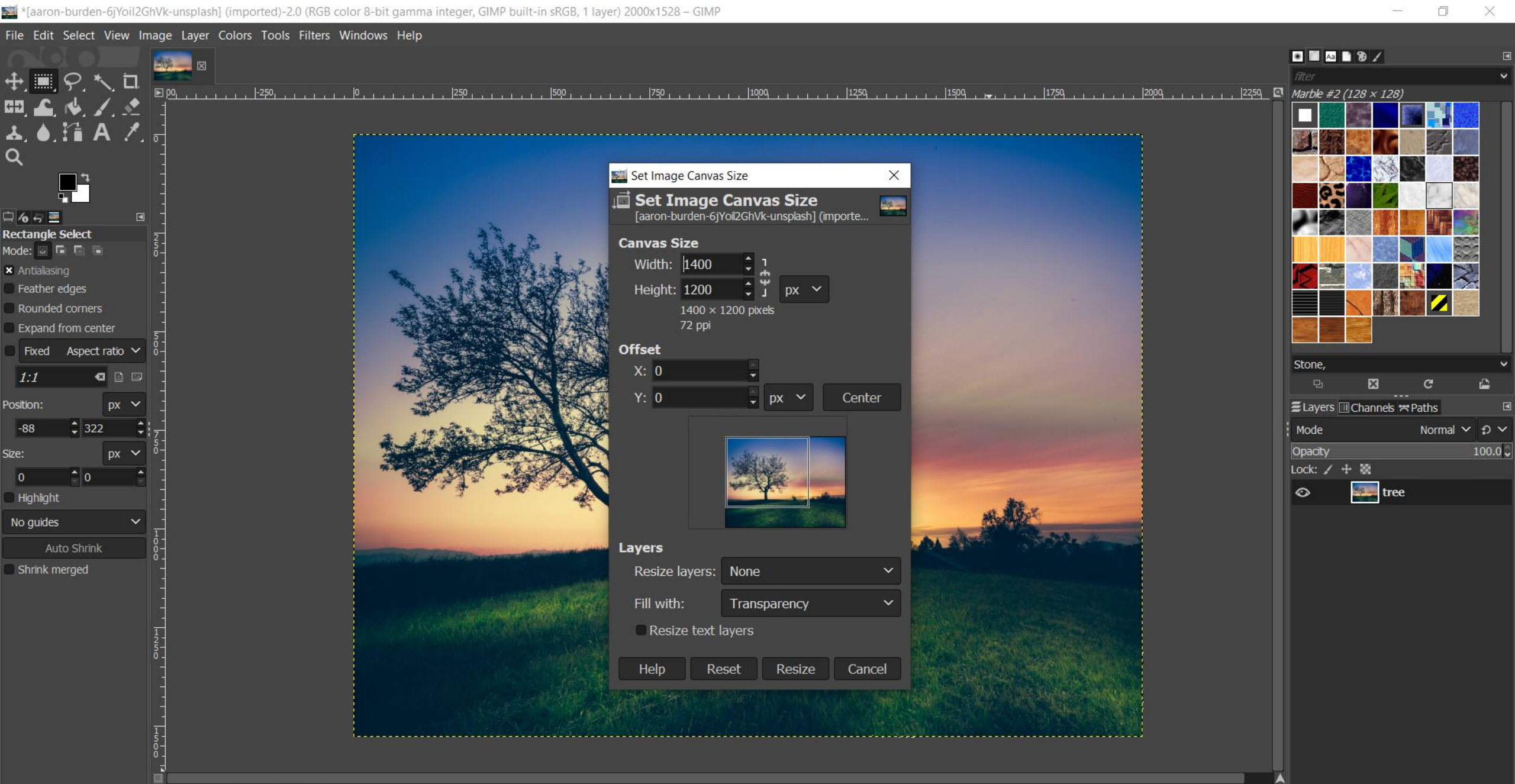


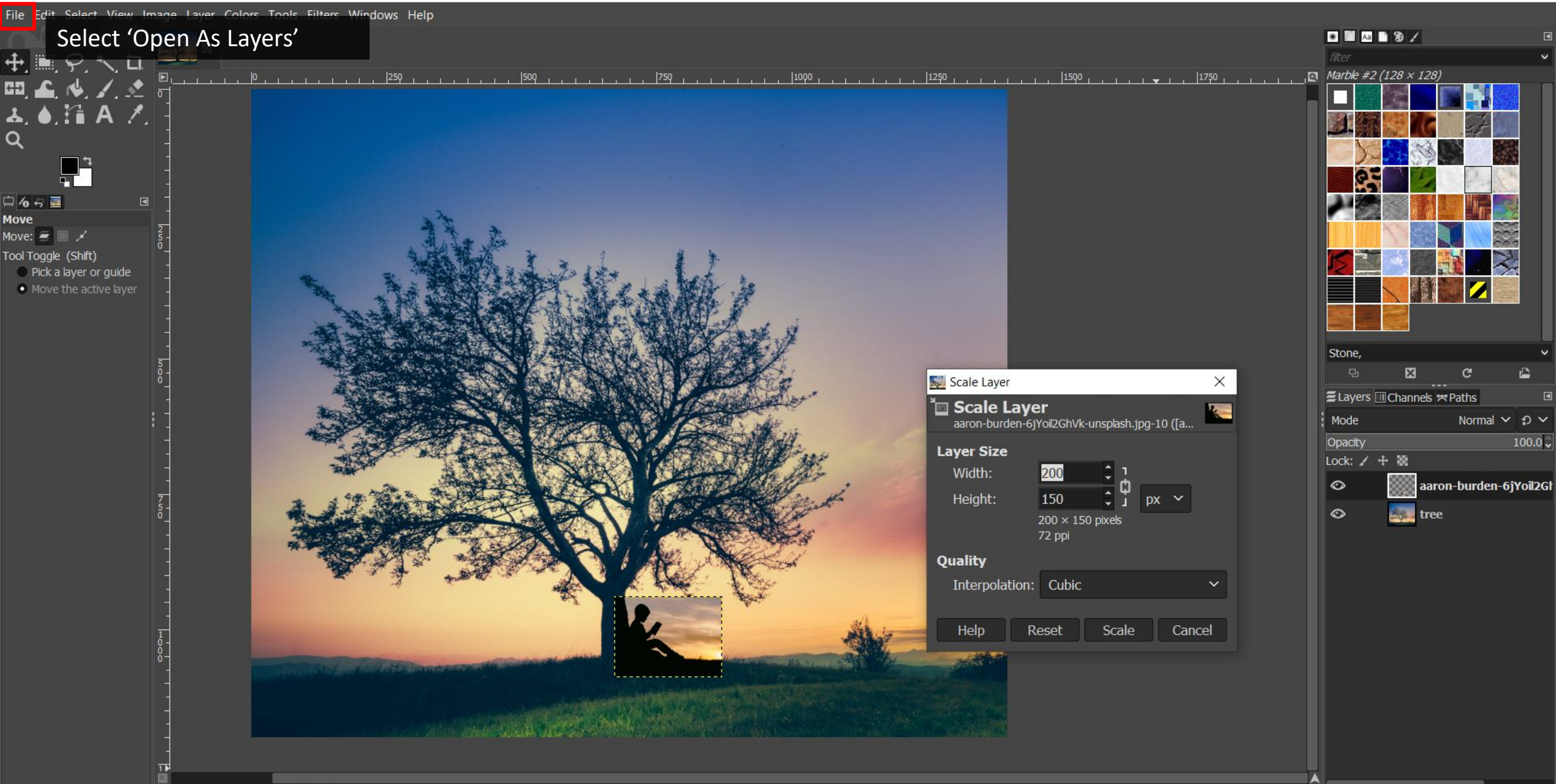
1. Downloaded a picture of a tree from Unsplash and scale Layer to my desired size.



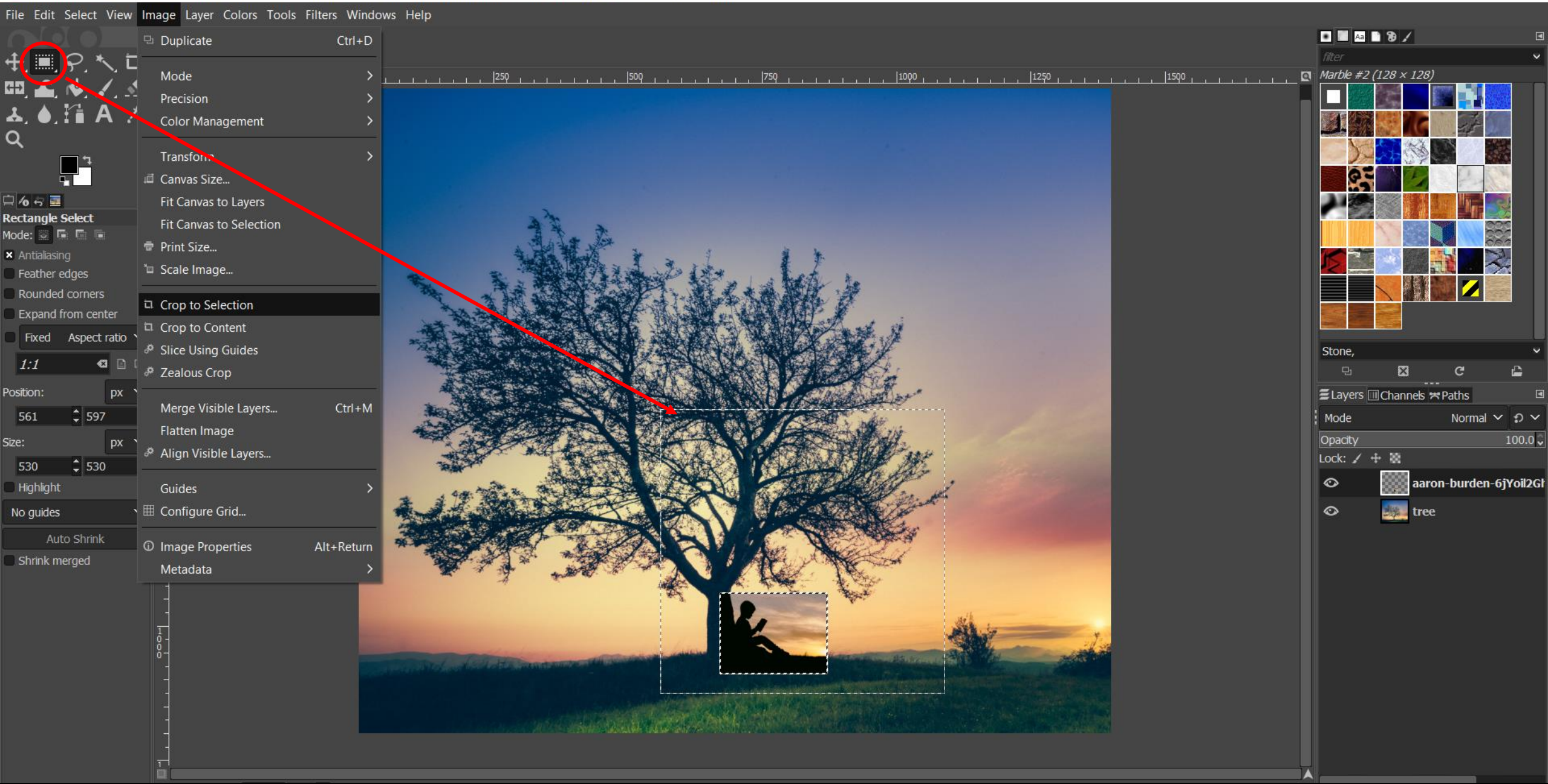
2. Go to Image > Crop to Content to make the canvas fit the picture.



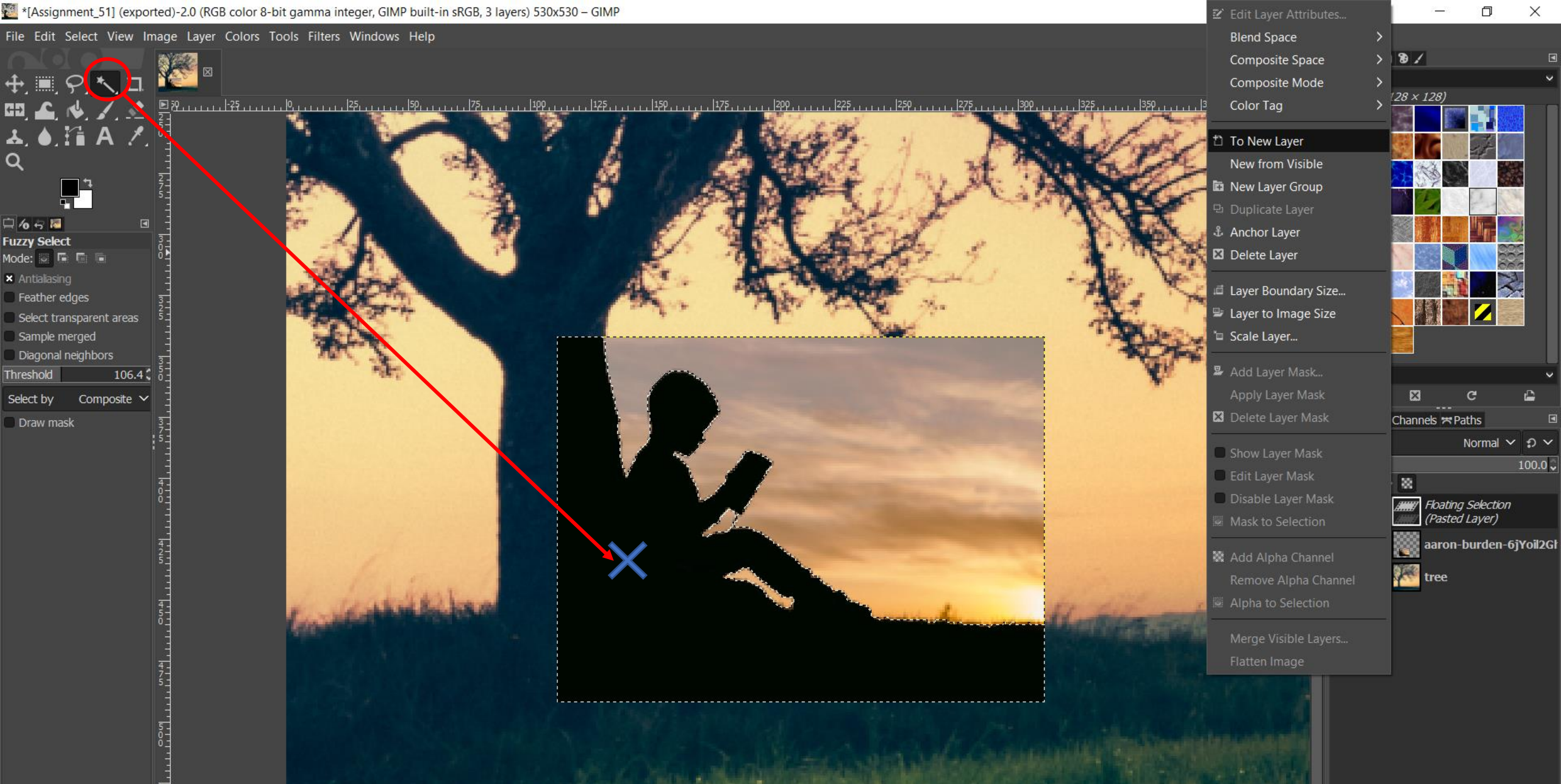
3. Change of mind – I want to zoom in to the tree. So I select 'Canvas Size' under Image.



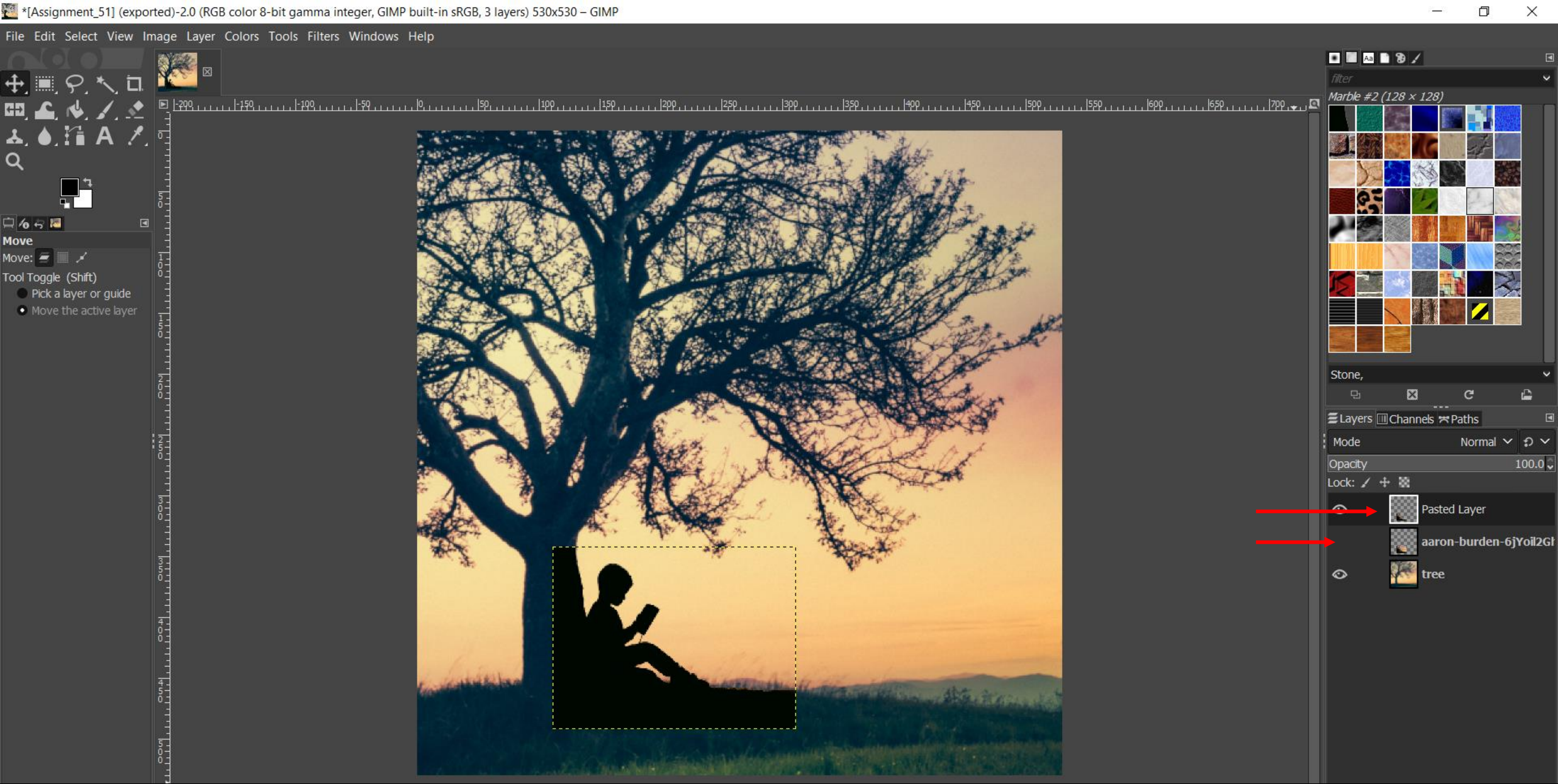
4. Took another picture from Unsplash and scale it down such that it can fit into the image of tree.



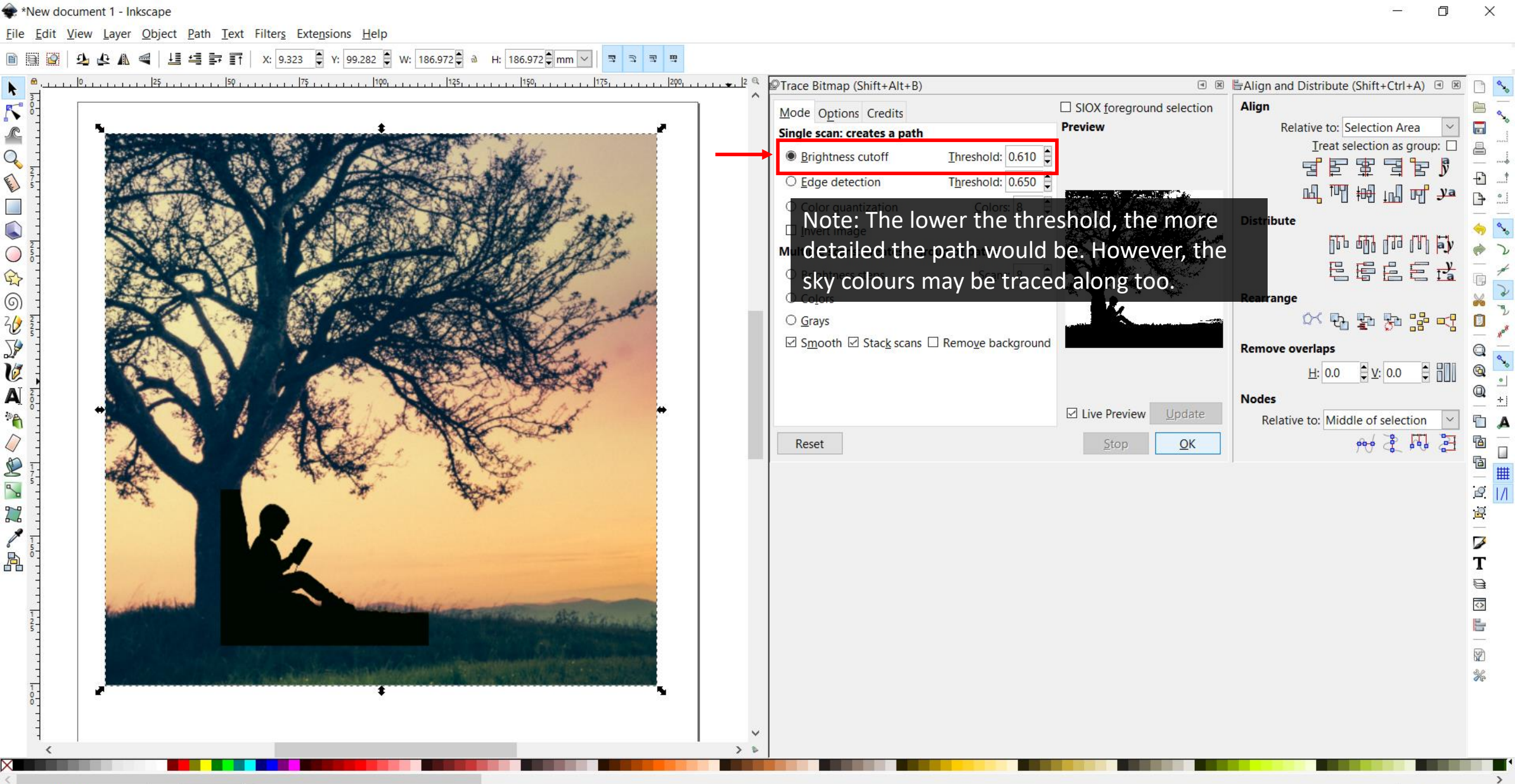
5. Zoom-in further: I used the Rectangle Selection Tool to set the parameters and then select Crop to Selection.



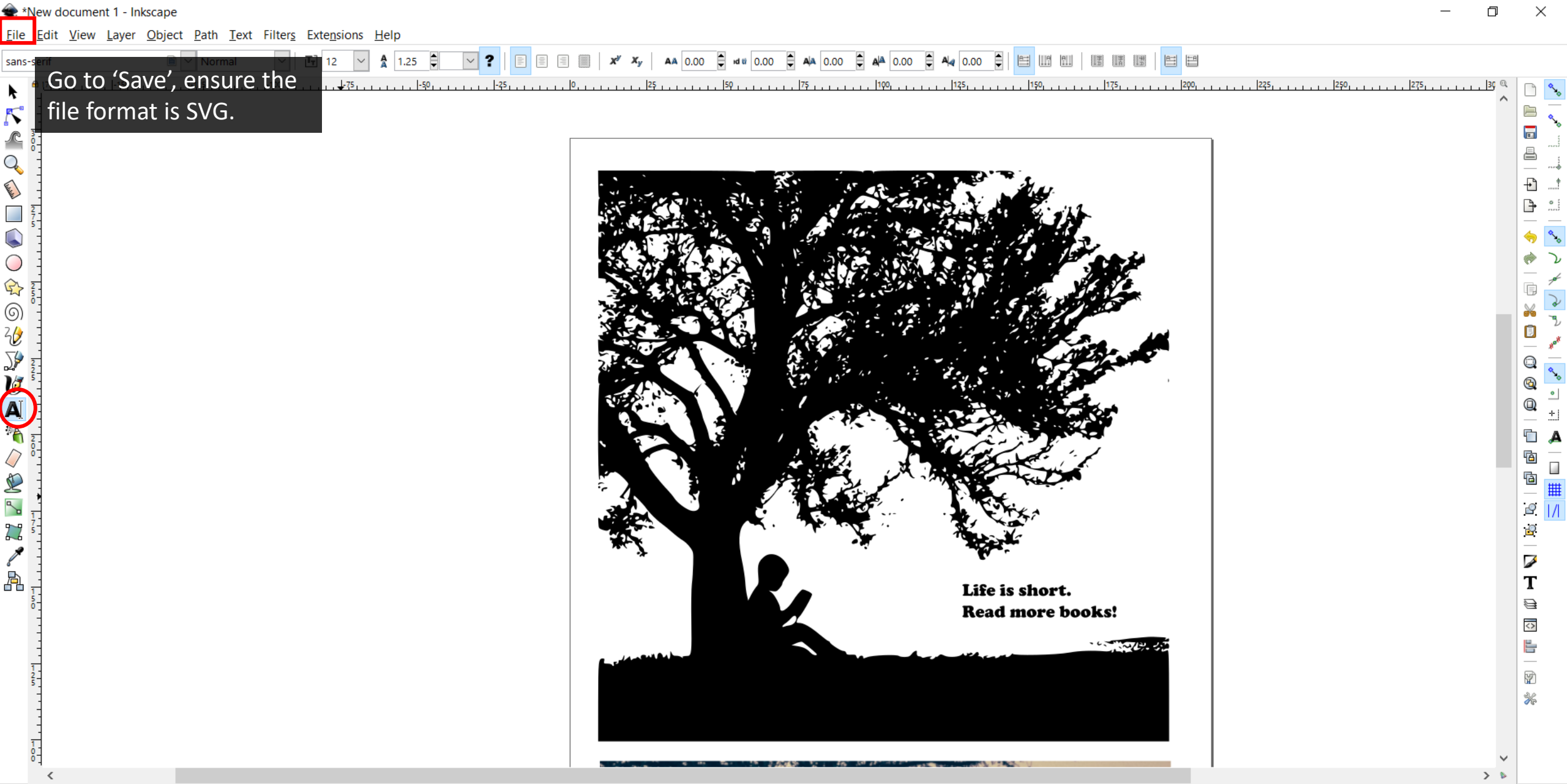
6. I figured that the different skies may hinder my vector conversion later, so I used Fuzzy Select tool and clicked on the person. Dotted outline forms around the silhouette, and I copied and pasted to form a floating layer.



7. Once satisfied, I just clicked outside the canvas and the floating selection forms the 'Pasted Layer'. Then I hide the original picture by clicking on that eye icon. Now I can export this image as PNG.



8. Open Inkscape, Import this image. Go to Path > Trace Bitmap, then set the desired threshold for Brightness cutoff.



9. Shift the original image way and there you have it – a vector drawing! Last thing before I save this as SVG (for engraving), I added a quote using the Text Box function in Inkscape.

The screenshot shows the Autodesk Fusion 360 interface. The top ribbon includes tabs for SOLID, SURFACE, SHEET METAL, and TOOLS. The fx icon is circled in red. Below the ribbon is a warning message: "This computer's graphics driver or hardware may be limiting performance. [Learn more here.](#)".

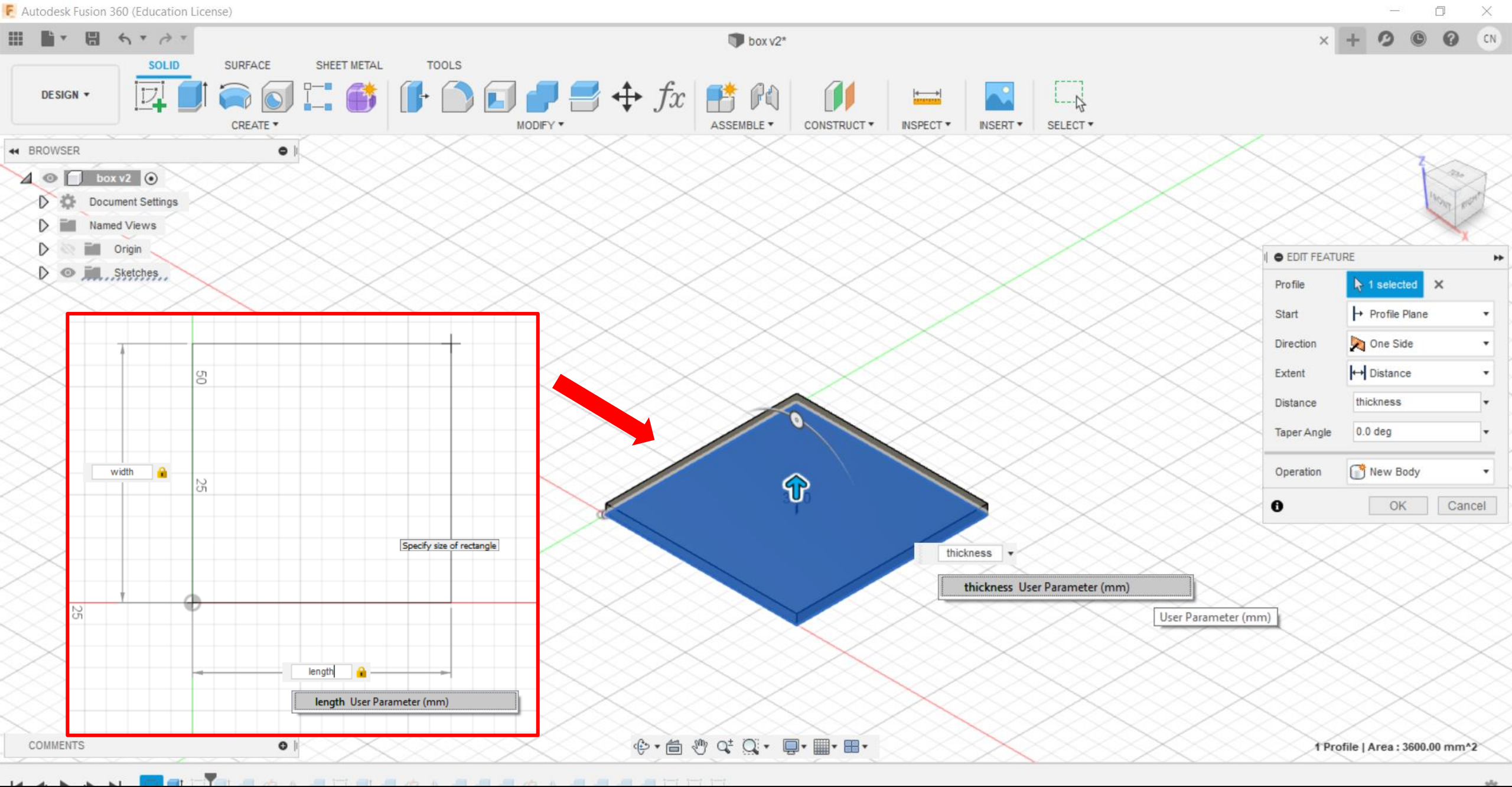
The Parameters dialog box is open, displaying a table of parameters. The 'User Parameters' section is expanded, and the 'length' parameter is highlighted with a red box. An arrow points from this parameter to the 'Add User Parameter' dialog box, which is also highlighted with a red box. The 'Add User Parameter' dialog box shows the following fields:

- Name: length
- Unit: mm
- Expression: 60
- Value: 60.00
- Comment: cube length

The Parameters dialog box table is as follows:

Parameter	Name	Unit	Expression	Value	Comments
Favorites					
User Parameters +					
☆ User Parameter	length	mm	60 mm	60.00	cube length
☆ User Parameter	width	mm	60 mm	60.00	cube width
☆ User Parameter	height	mm	60 mm	60.00	cube height
☆ User Parameter	thickness	mm	3 mm	3.00	cube thickness
☆ User Parameter	fingerL	mm	length / 3	20.00	finger on length
☆ User Parameter	fingerW	mm	width / 3	20.00	finger for width
☆ User Parameter	fingerH	mm	height / 3	20.00	finger on height
Model Parameters					

10. Launch Fusion 360. Set the parameters first. (This allows flexible changes in the future, when the design is similar.)



11. Create a new sketch on the X-Y plane. Draw a rectangle from the origin, with the following dimensions. Extrude to thickness.

Autodesk Fusion 360 (Education License)

box v2*

DESIGN ▾

SOLID SURFACE SHEET METAL TOOLS SKETCH

CREATE ▾ MODIFY ▾ CONSTRAINTS ▾ INSPECT ▾ INSERT ▾ SELECT ▾ FINISH SKETCH ▾

BROWSER

box v2

Document Settings

Named Views

Origin

Bodies

Sketches

SKETCH PALETTE

Options

Construction

Look At

Sketch Grid

Snap

Slice

Show Profile

Show Points

Show Dimensions

Show Constraints

Show Projected Geometries

3D Sketch

Finish Sketch

fx: 60.00

50

75

fx: 20.00

fingerL

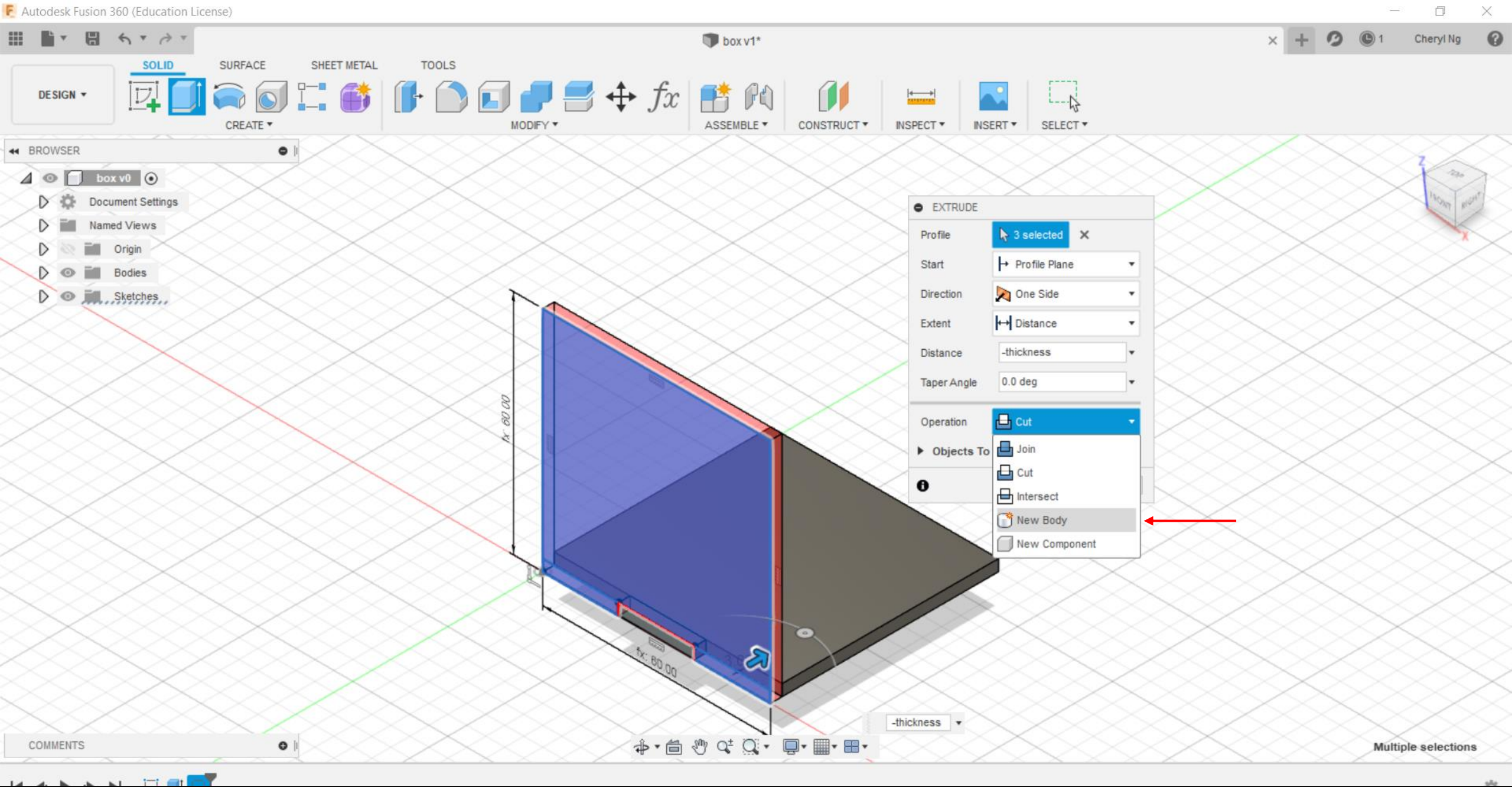
fingerL User Parameter (mm)

125 100 75 50 25

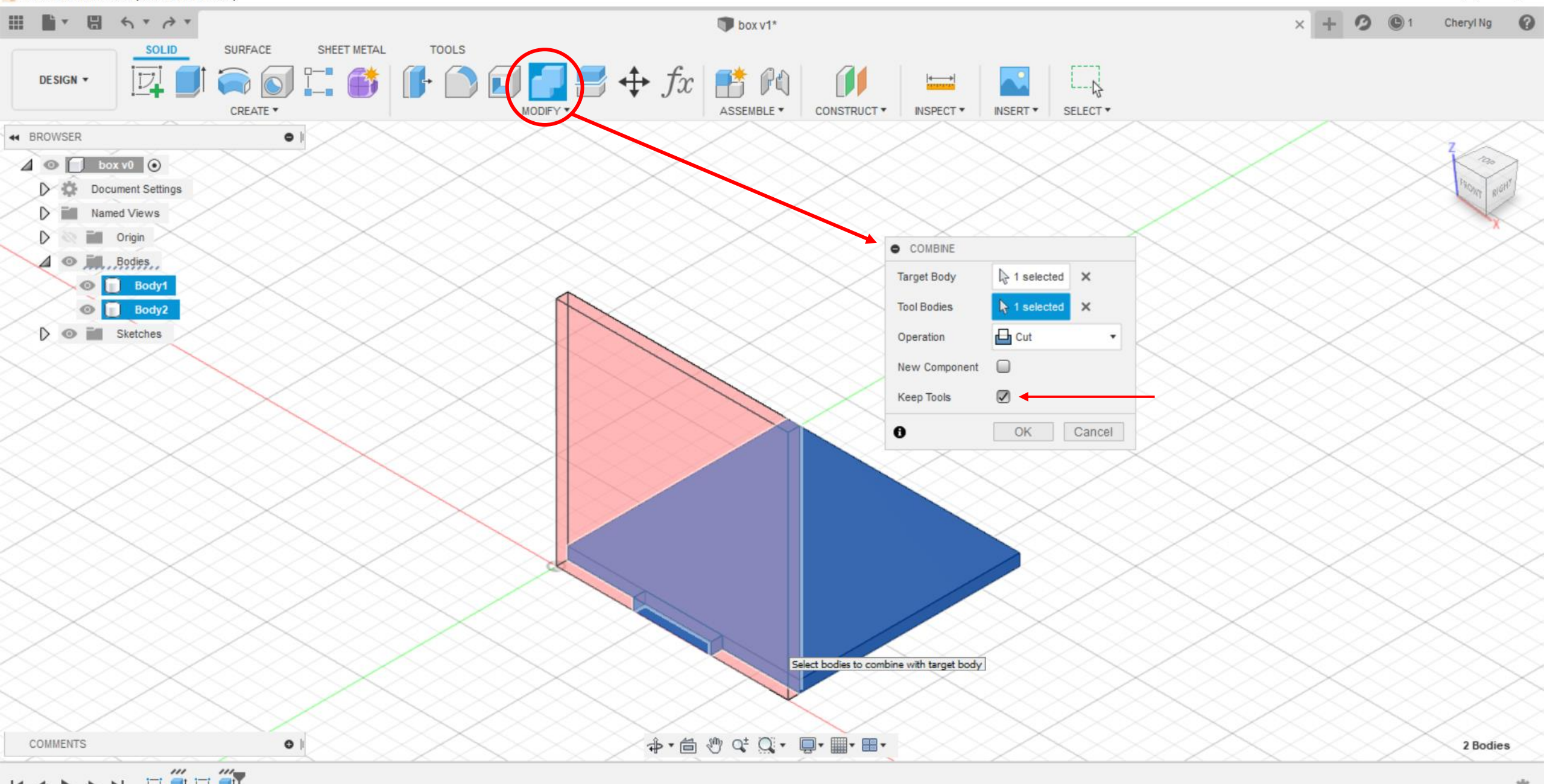
COMMENTS

Note: To set the height of the rectangle, hover the pointer until it snaps to this line with a blue 'X'

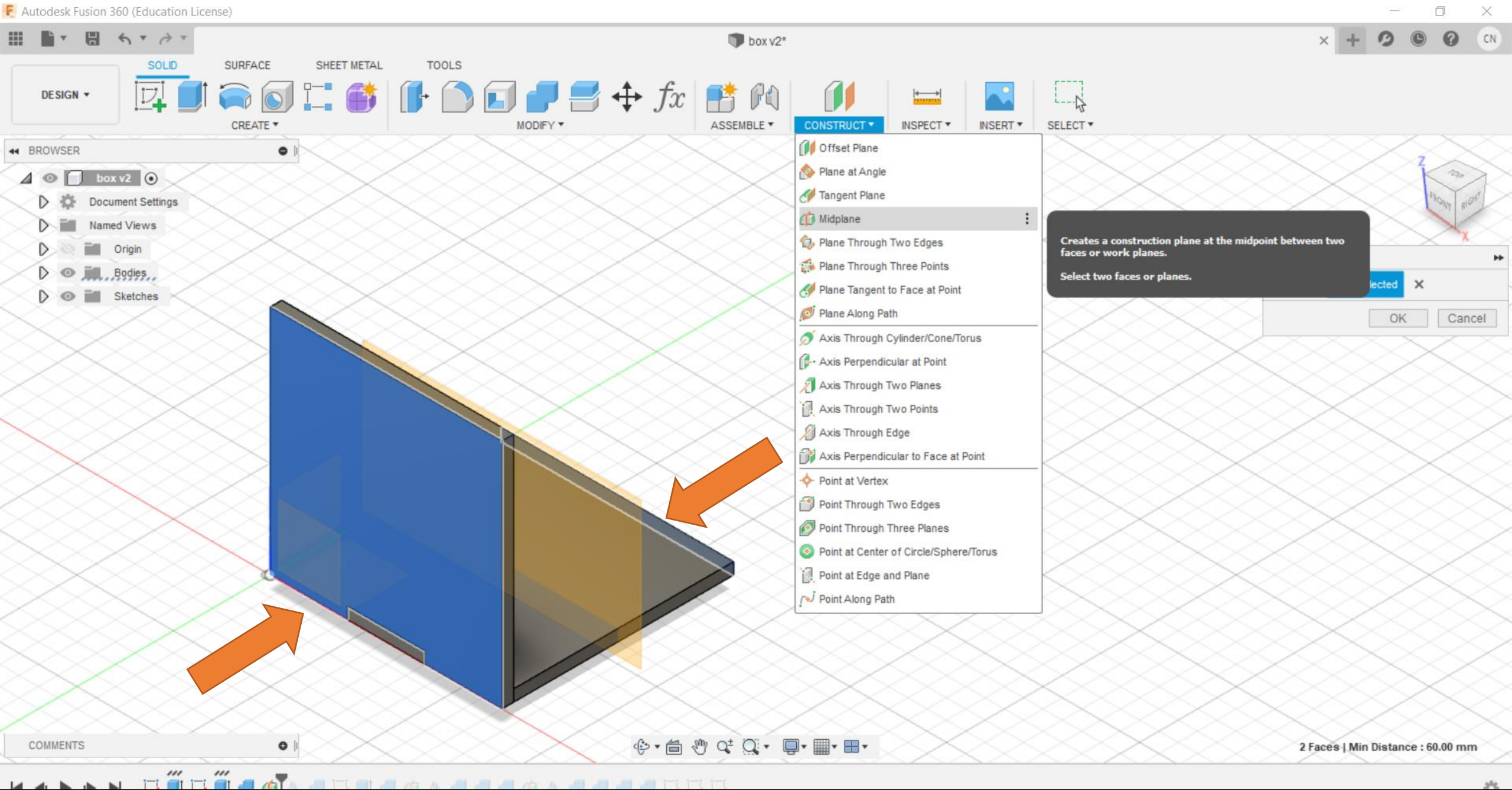
12. Create a new sketch. Select the right face of the bottom plate as the sketch surface. Draw 2 rectangles at the bottom.



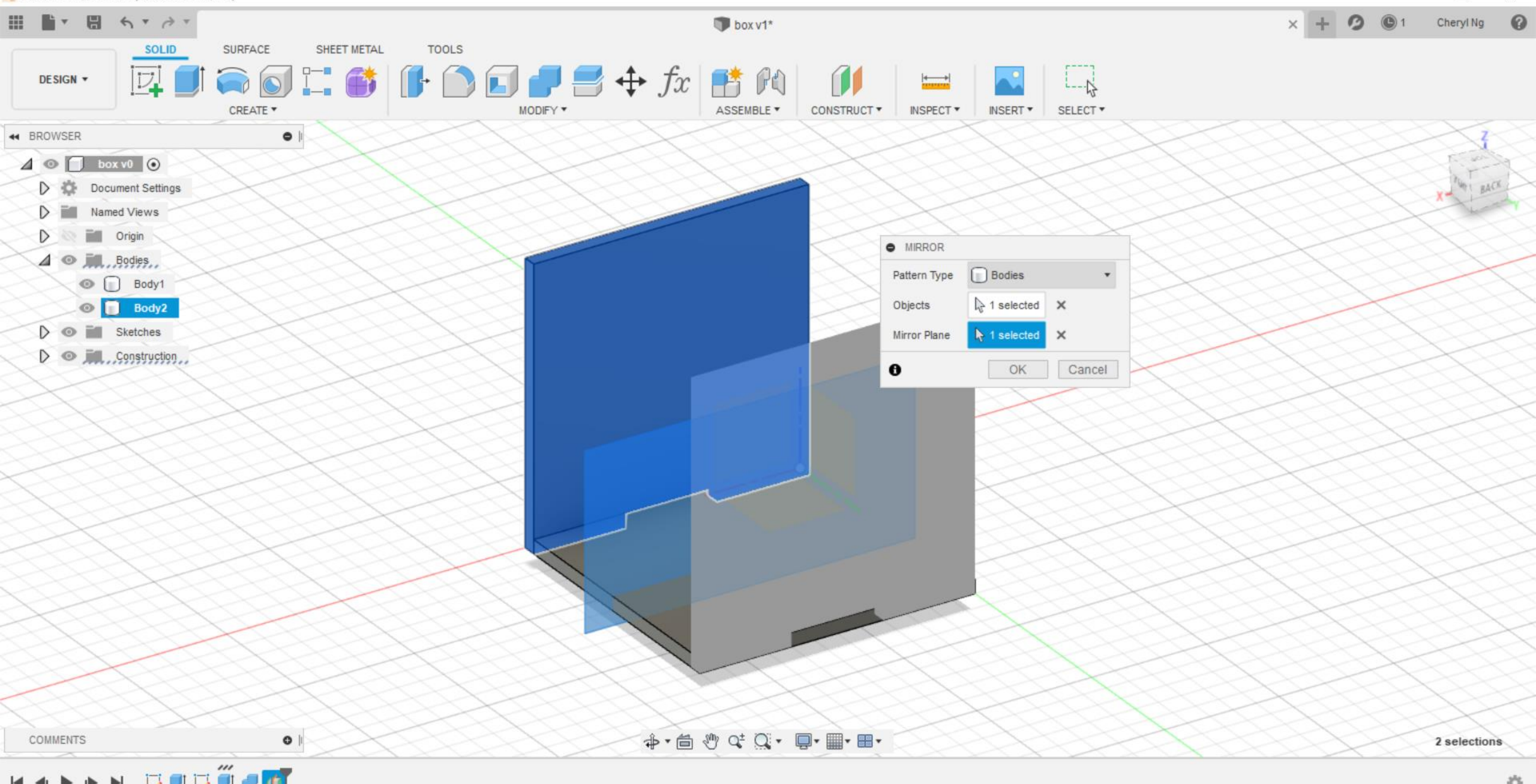
13. Finish Sketch and extrude the face without the finger. Select 'New Body'.



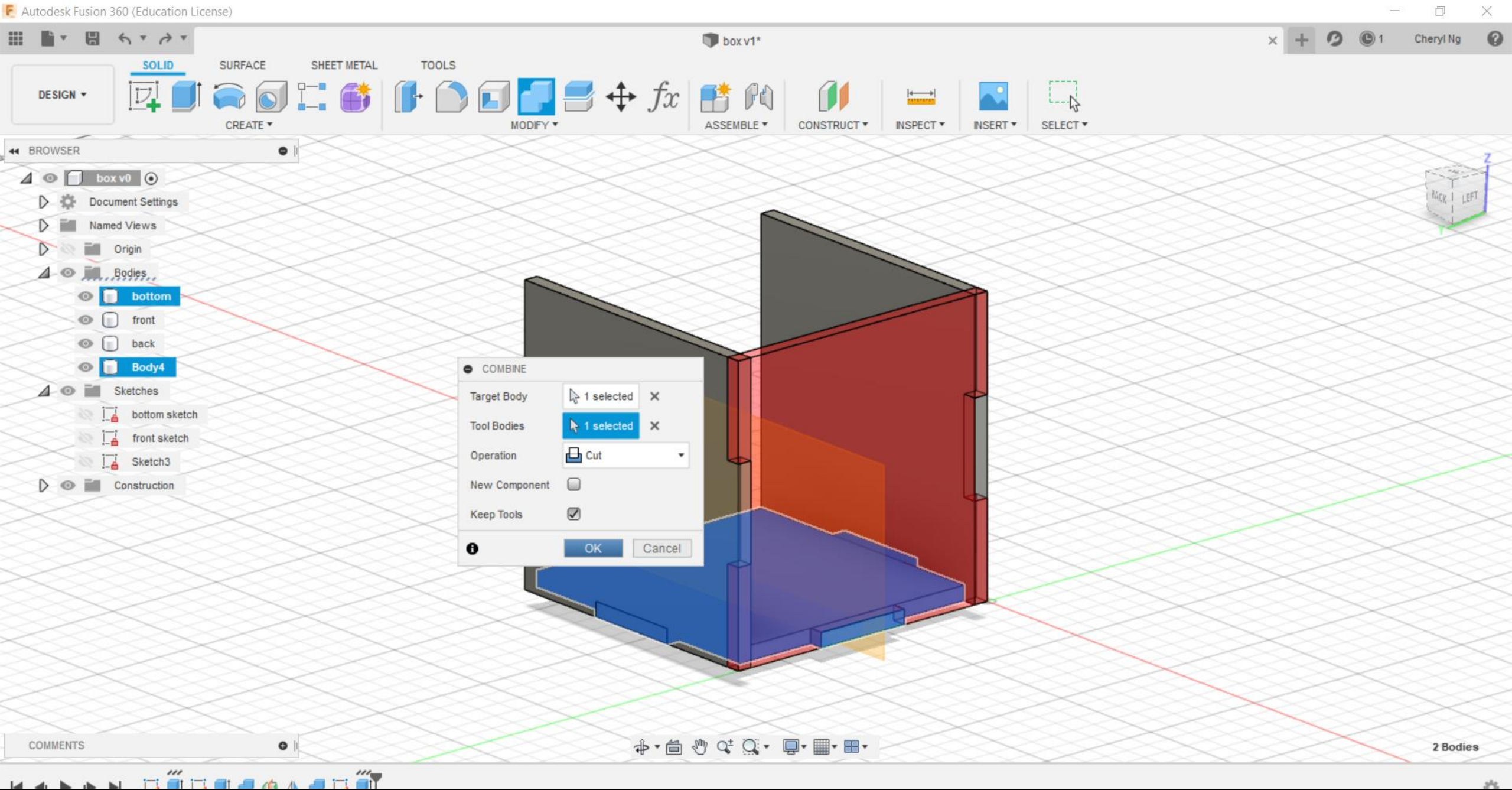
14. Using the new body as cutting tool, cut off the overlapping areas of the base piece. Remember to Keep Tool.



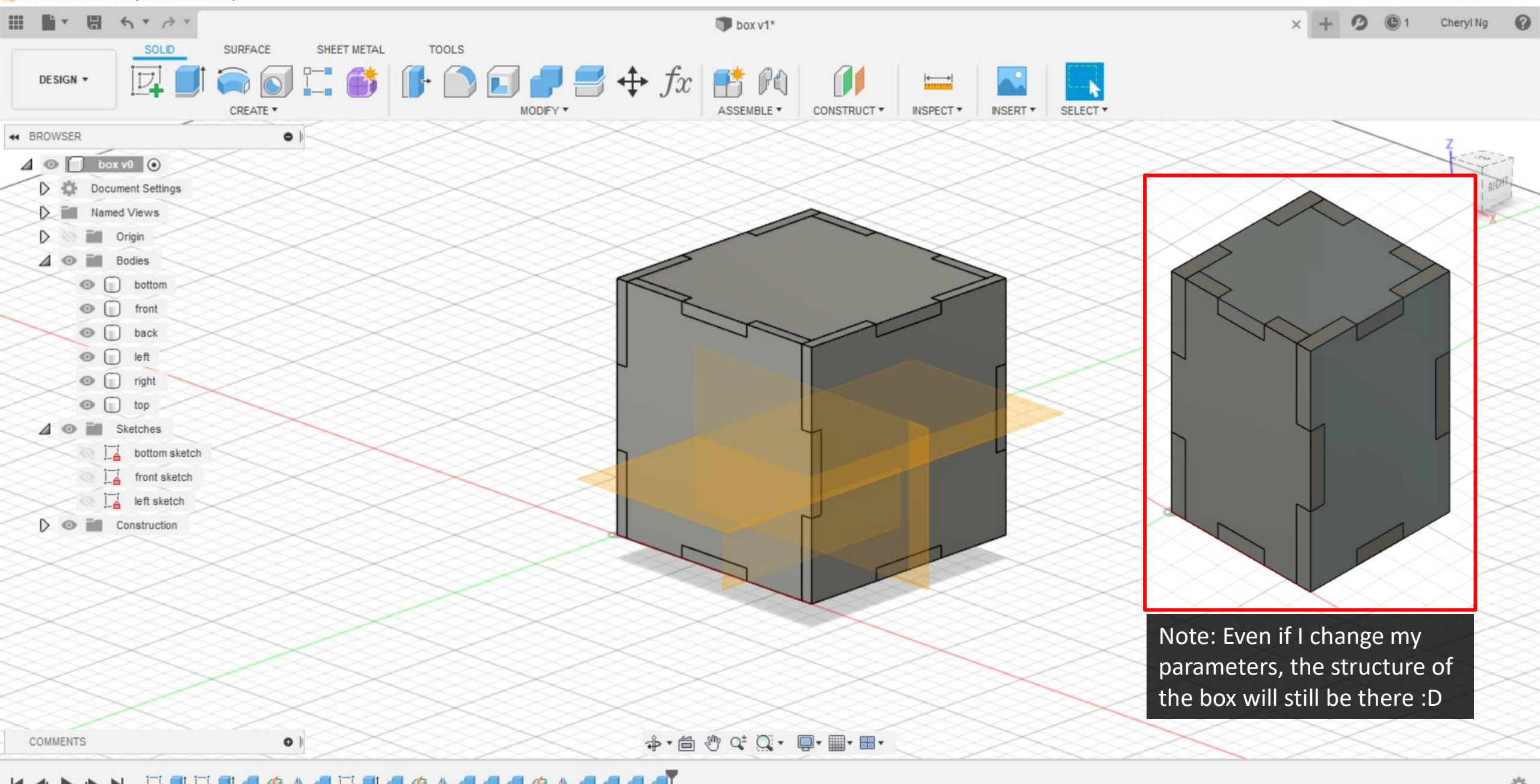
15. Construct a midplane between the front and back faces.



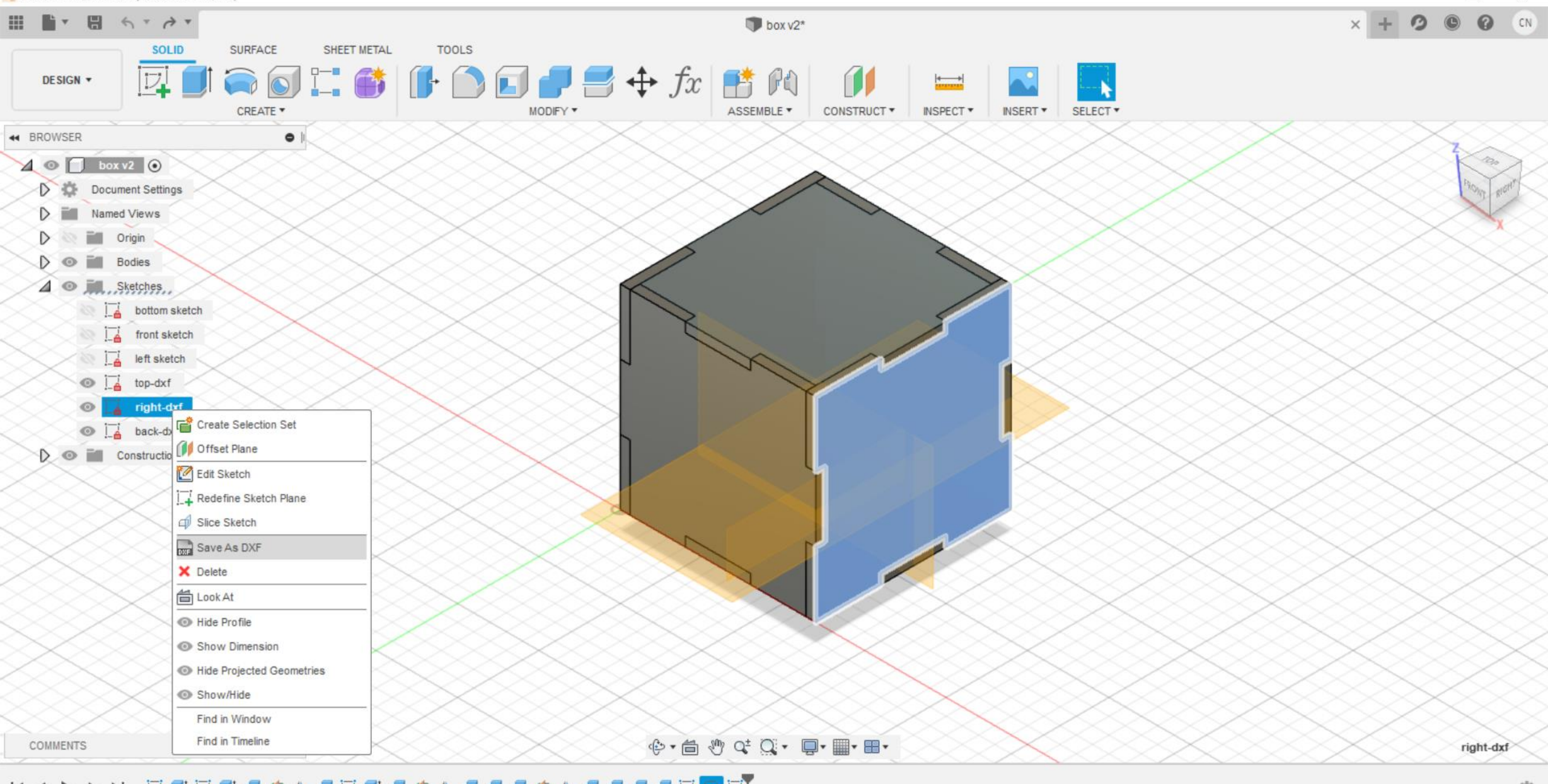
16. Mirror Body2 to the back using the midplane. Click OK when done.



17. Select the left face of any body, and create a sketch. Draw a rectangle from corner to corner, then extrude.



18. Repeat constructing midplane, mirroring and cutting for the remaining pieces (right & top). The box design is done!



To export the sketch for laser cutting, right-click on the sketch and select 'Save as DXF'. Inkscape & LibreCAD can open .dxf files.