

Base

Note 1: Dimensions are always in mm.

Note 2: The colour of any 3D object you make has no influence on the sketch nor on the 3D printed end result.

1. Create a sketch on de ground plane
2. Draw a rectangle on it
3. Set the right dimensions of the rectangle with the “set dimensions” tool (see figure below)
 - a. Click “set dimensions”
 - b. Click on boarder you want to set
 - c. Click to set it
 - d. Enter the value

The drawing should look like this:



Finish the sketch by pressing the finish sketch button.

4. Extrude the whole square.

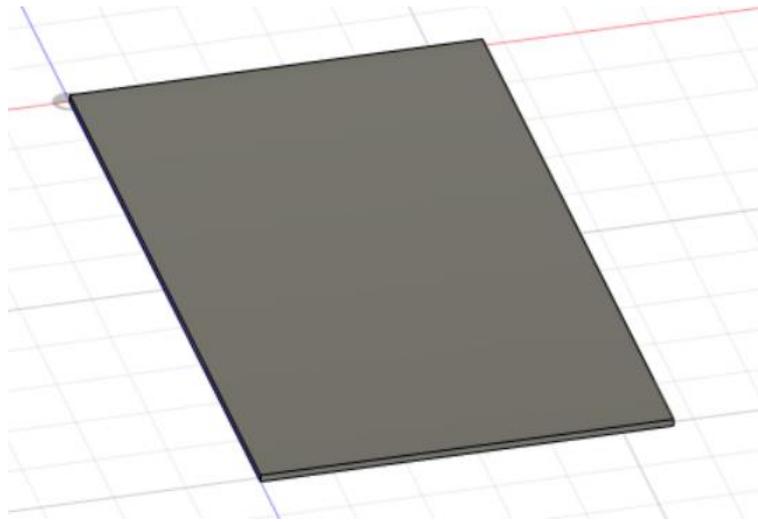
Set the height of the extrude to “**1 mm**”, this can be done by filling in the value or pulling the arrow



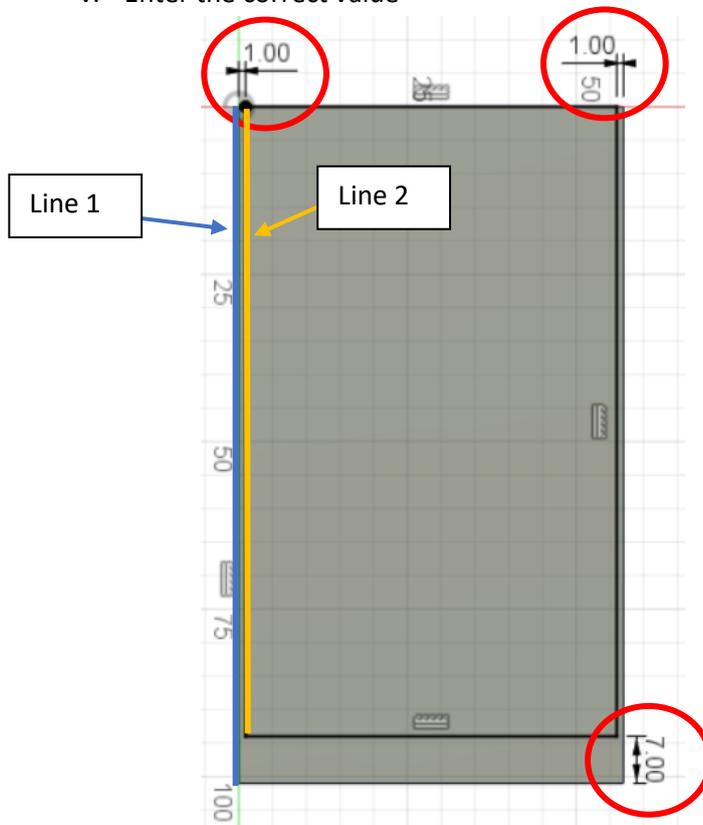
Press ok to finish the extrusion.

Save your drawing (Ctrl + S) and type in your progress since last time

If everything is alright you have now a 3D object which looks like the following.

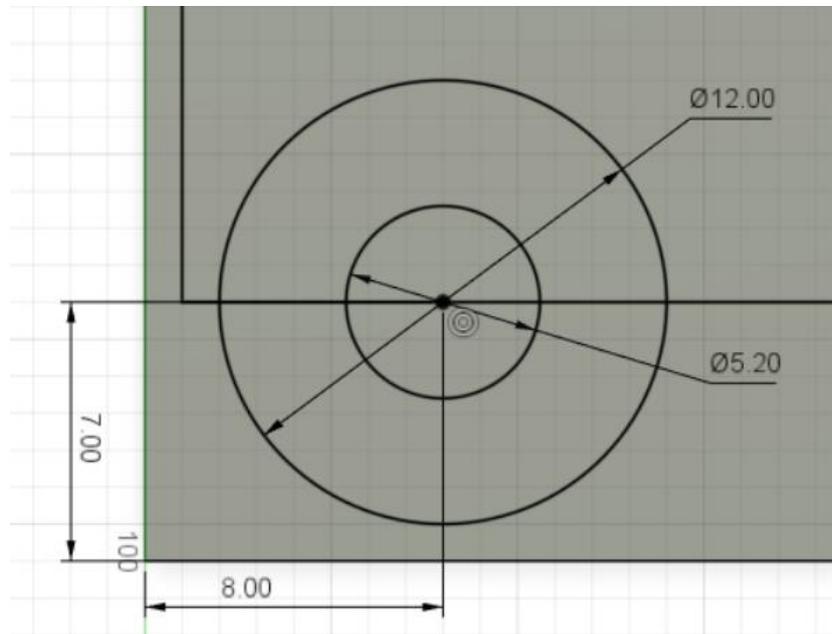


5. Create a new sketch, on top of your 3D object. (Select top of 3D object (it turns blue)→ Create sketch)
6. Draw a rectangle and set the right dimensions, see picture below. Start you square at the top line of the 3D model in the middle.
 - a. Example of creation of distance between two lines (see red circles)
 - i. Click dimensions tool
 - ii. Click Line 1 (e.g. the outer square)
 - iii. Click line 2 (e.g. the inner square)
 - iv. Click (to create the dimension)
 - v. Enter the correct value

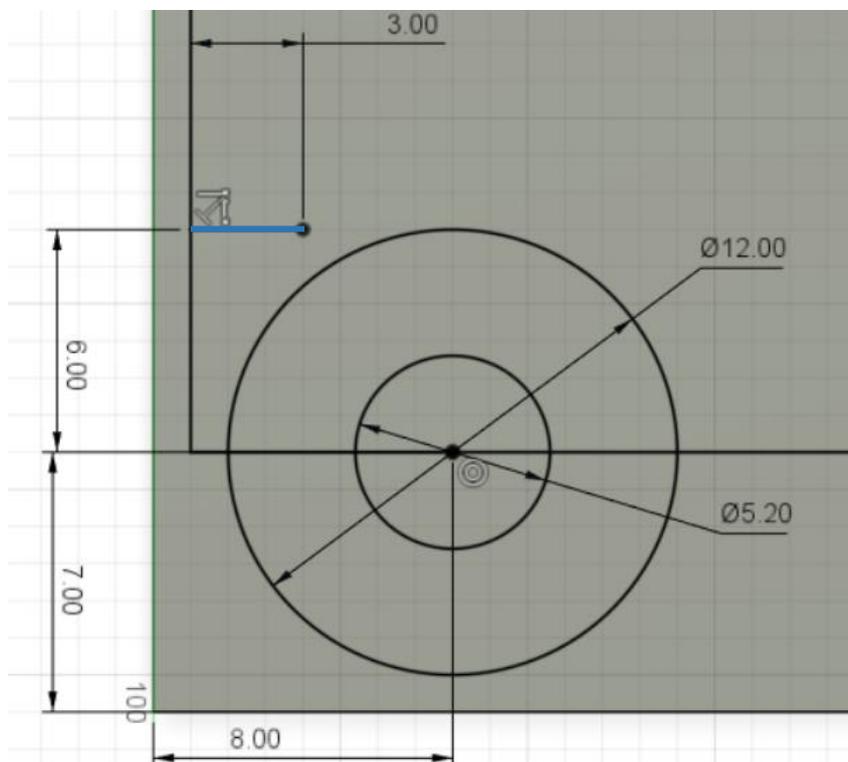


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7. In the same sketch draw two circles on the left bottom of the just created square, with the right dimensions see picture below. You can set the diameter with the dimension tool by only selecting the circle.
- a. To set the dimensions of the centre of a circle to a line do the same as in 6.a but now click the circle and a line instead of 2 lines.



8. Draw a line above the circle just as the blue line in the picture below. You can set the length of the line with the dimensions tool by only selecting the line.



Save your drawing (Ctrl + S) and type in your progress since last time

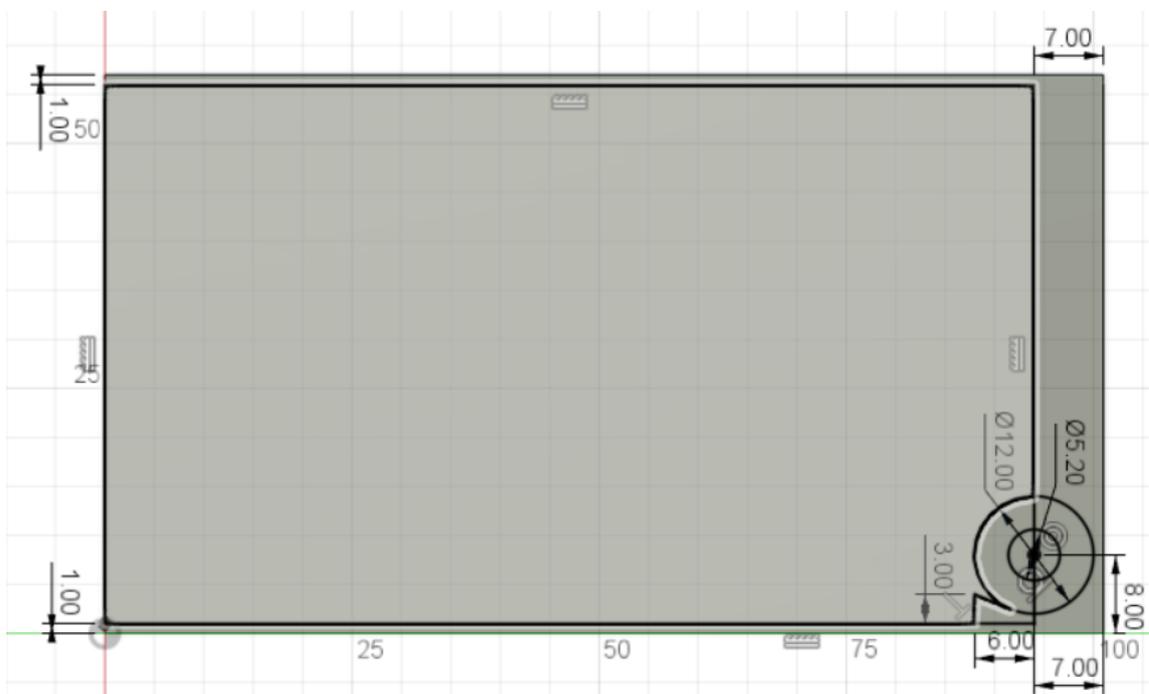
9. Draw a line from the end of the previous line to the circle, where the line is tangent to the circle. Do this according to the following steps.
 - a. Press (draw a) line
 - b. Start at the end point of previous line
 - c. Hover with you mouse over the circle until you see this sign



- d. Click at the point where you see this sign, just as in the picture below.

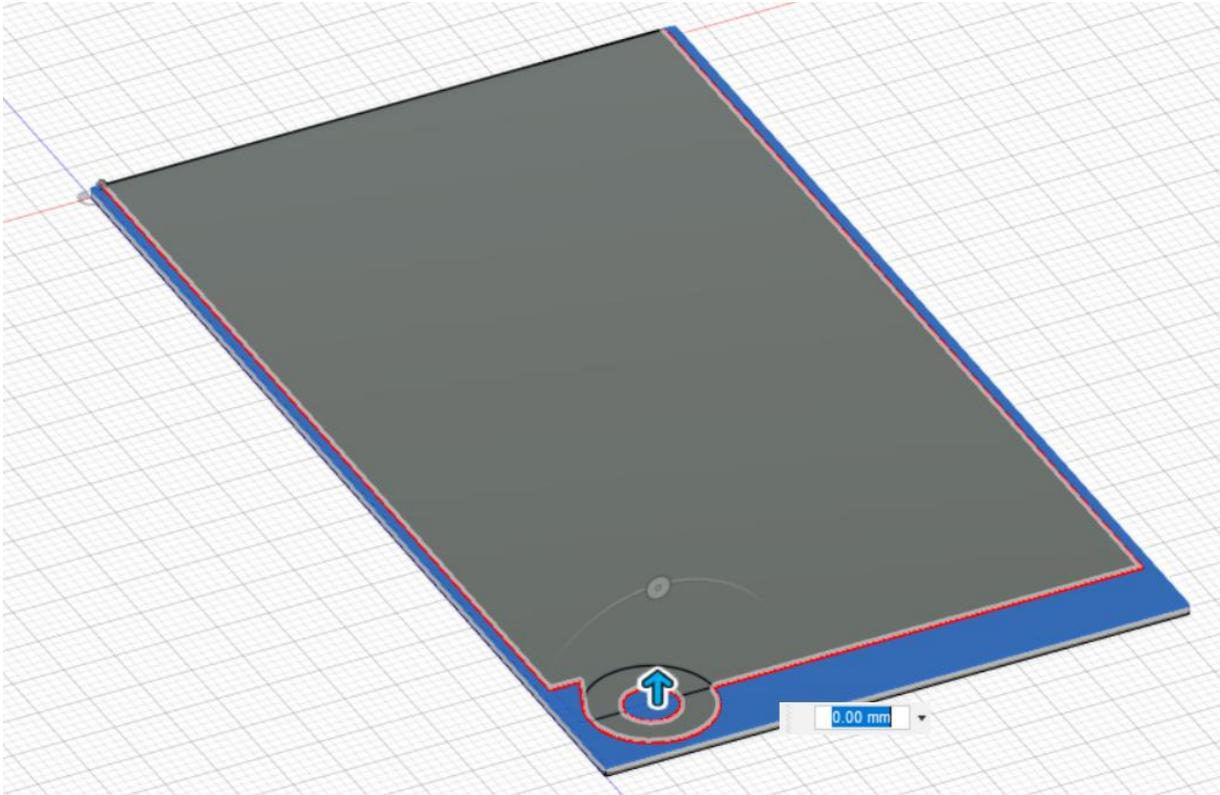


Finish the sketch. The total sketch should look like this: (rotated 90 degrees)



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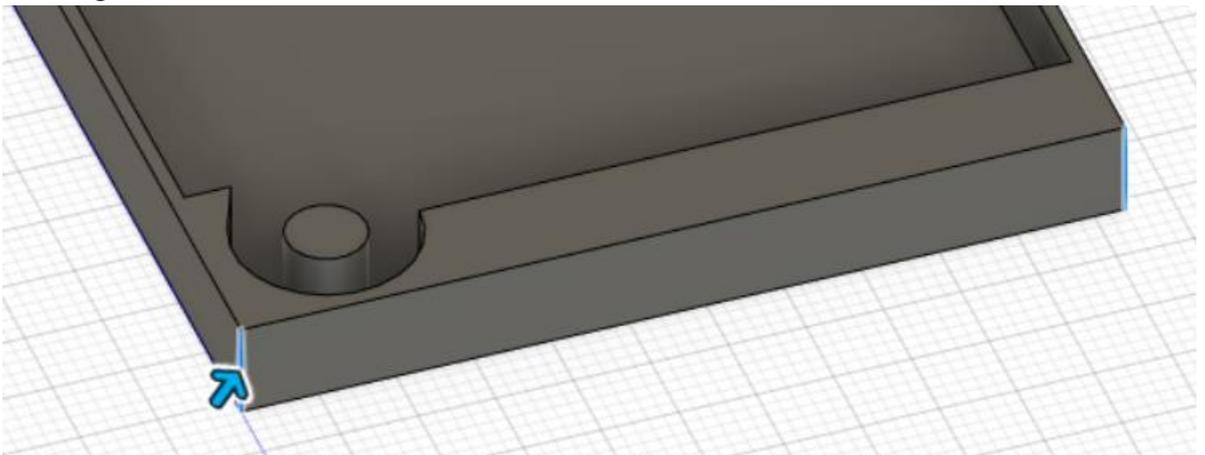
10. Extrude everything marked blue in the following picture. Do this by pressing extrude after which you click the different surfaces you want to extrude (the blue ones).



11. Extrude it to **5.5 mm** by pulling the arrow or entering the value.

Now we are going to use a new function. It is called “fillet”. It rounds straight corners to smooth round ones.

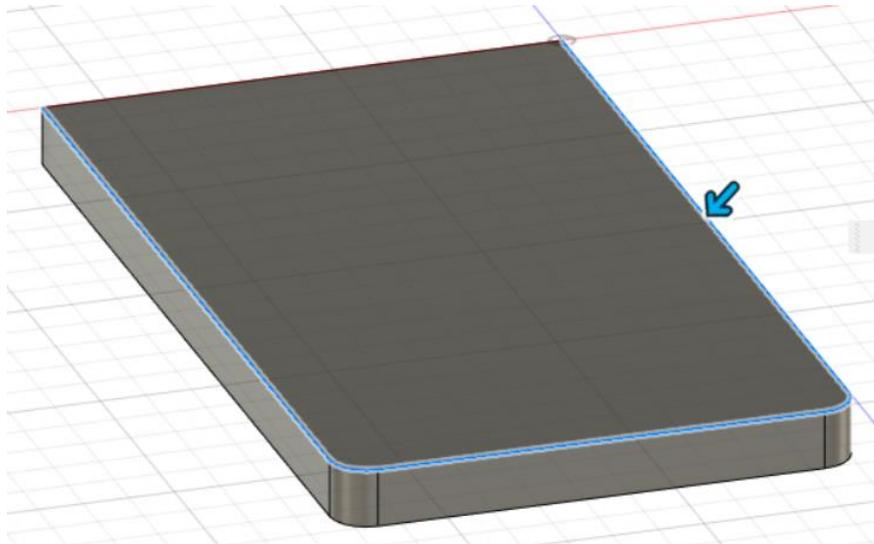
12. Select fillet then the two bottom corner lines (just click one first and then the other), just as in the figure below. The blue lines are selected for the fillet



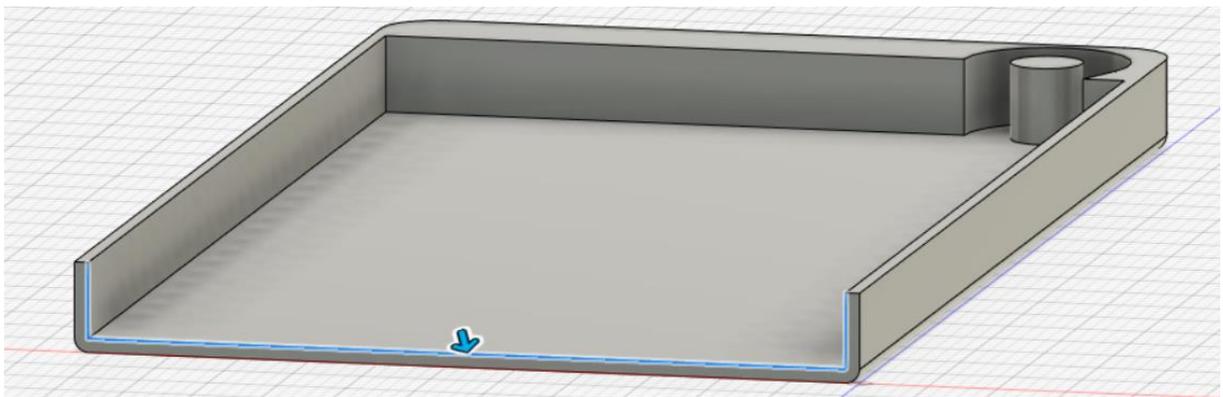
13. Adjust the value to **4 mm**, the same way as with the extrude function.

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14. Add a fillet on the outside of the down side of your 3D object of **1 mm** just as in the picture below.



15. The last step is to add a fillet on the front side of your drawing. The fillet is going to be **0.5 mm**, see picture below for the correct lines.



Save your drawing (Ctrl + S) and type in your progress since last time

Congratulations you have finished your first drawing. It should look like this:



Save your drawing (Ctrl + S) and type in your progress since last time