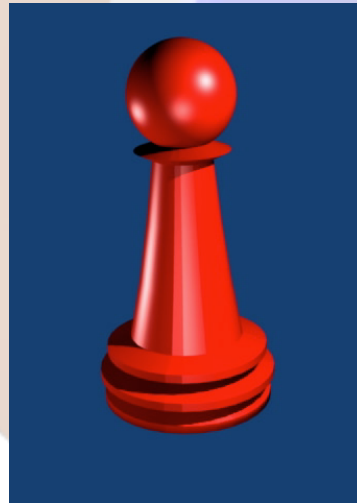


BLENDER

3D-MODELING

CHESS PAWN



JACEK KAWAŁEK

CHESS PAWN

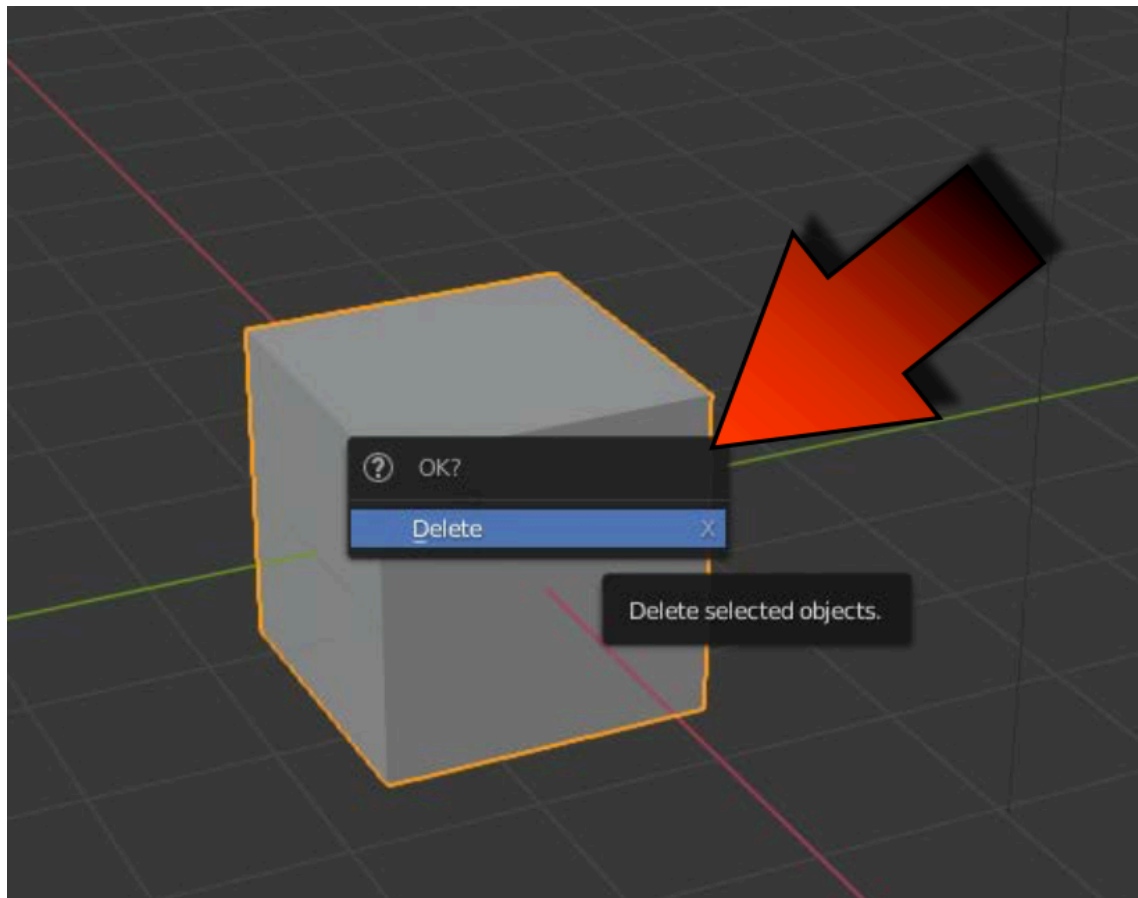
REMEMBER

**Save your work
systematically,
as you often need
to come back
to earlier solutions.**



CHESS PAWN

**We delete the default object
with the **X** or **DEL** key**

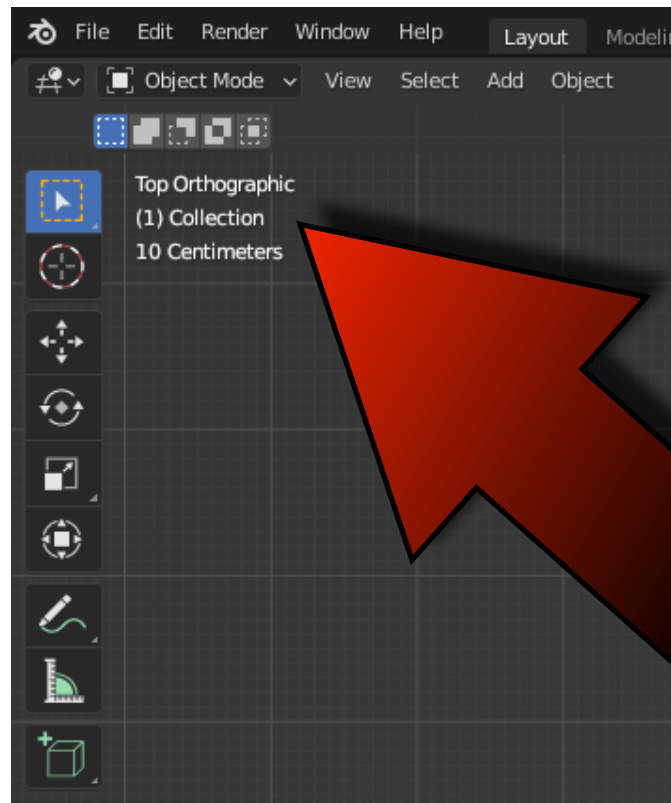


CHESS PAWN

In Object Mode

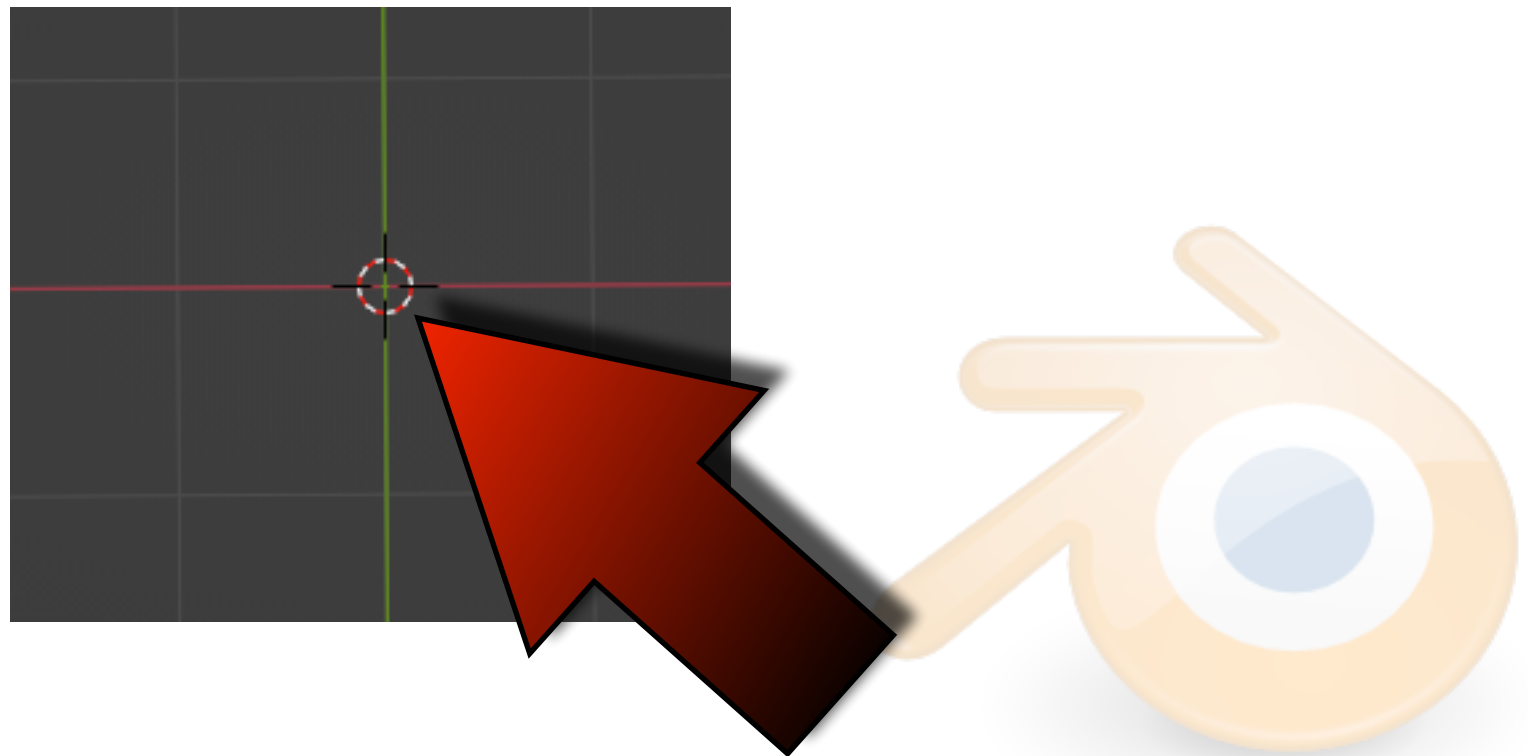
click Numpad - 7

TOP ORTHOGRAPHIC



CHESS PAWN

**Place the 3D cursor in
the center of the system
by pressing **SHIFT + C****

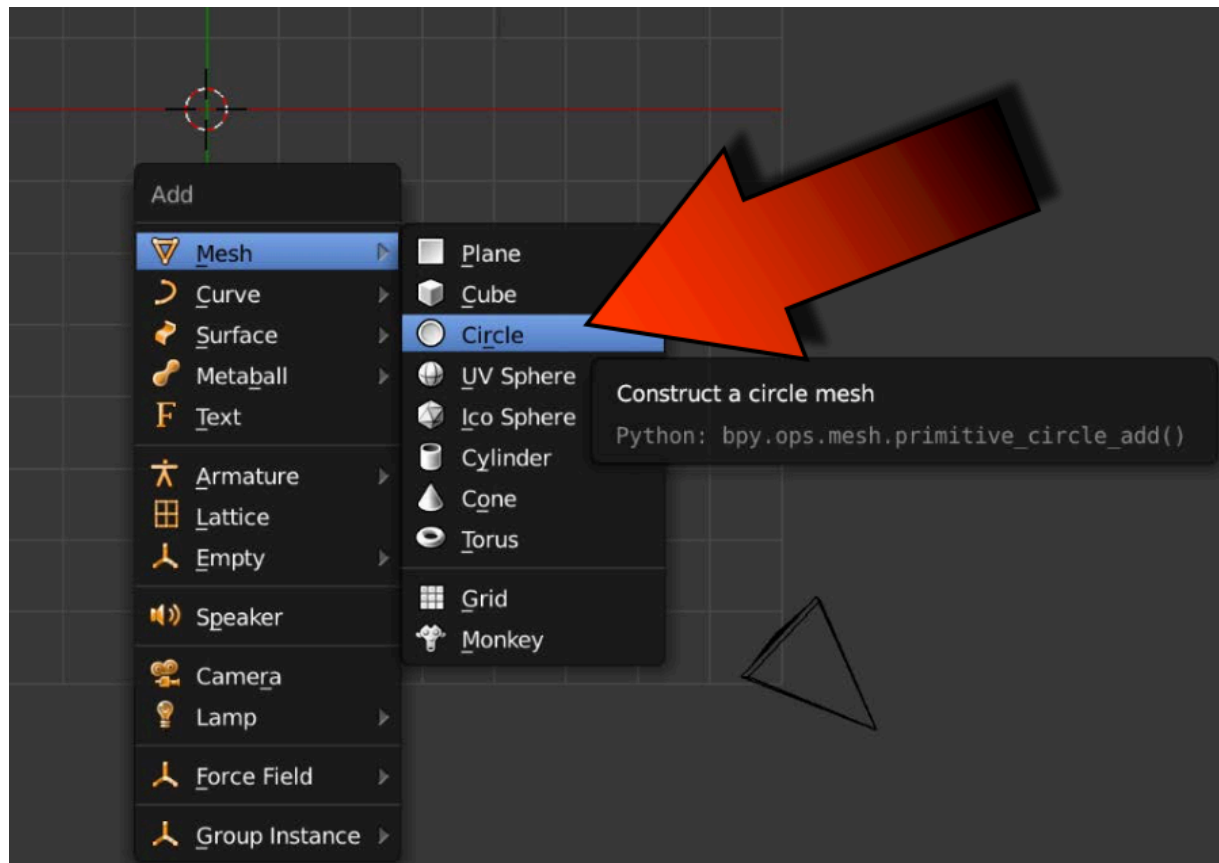


CHESS PAWN

WE ADD A CIRCLE

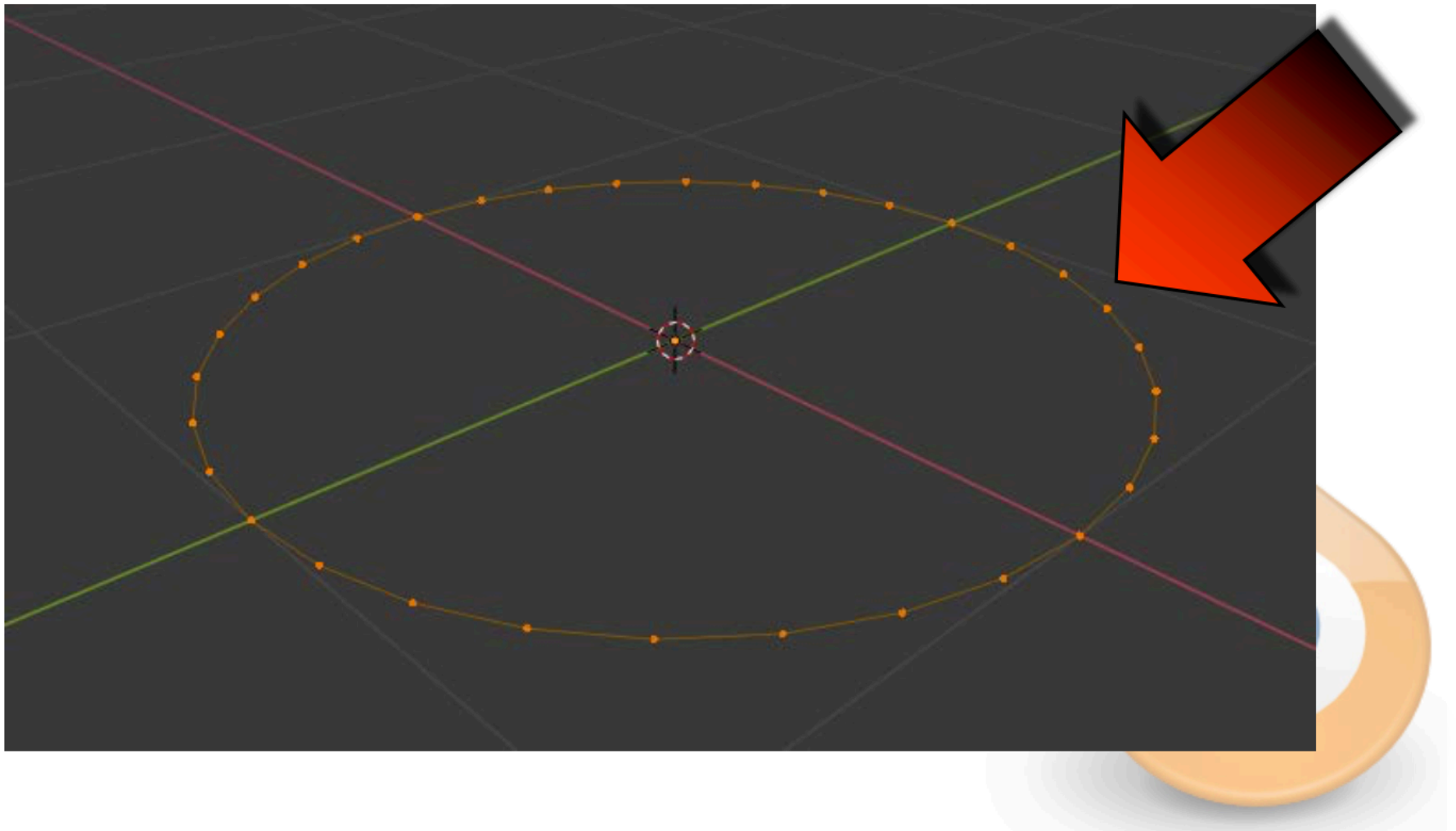
Press **SHIFT + A**

and choose **MESH / CIRCLE**



CHESS PAWN

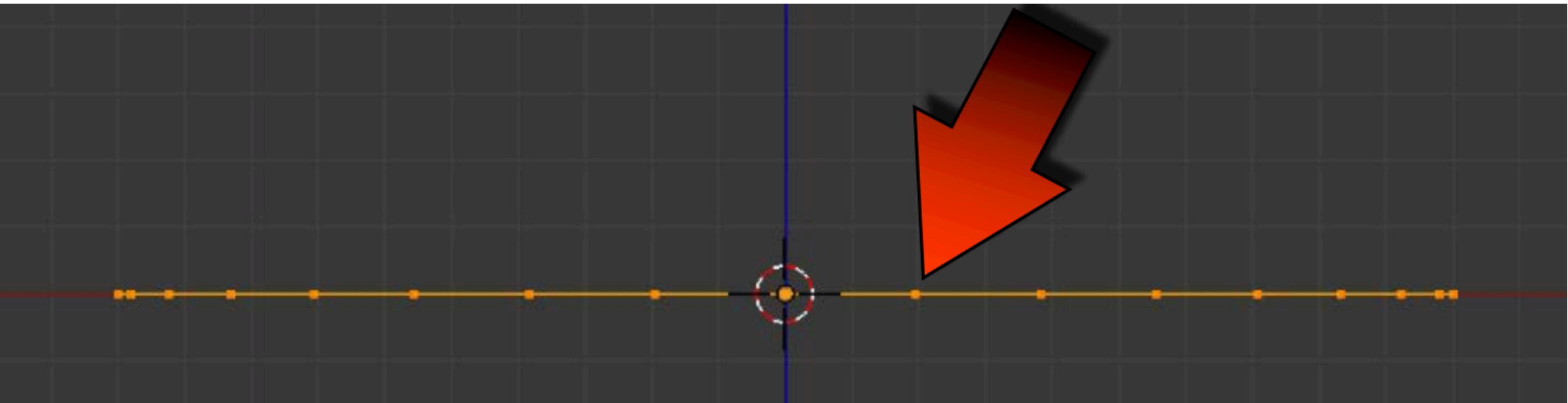
We change to **Edit Mode**
by pressing the **TAB** key



CHESS PAWN

**We select all the vertex
with the A key**

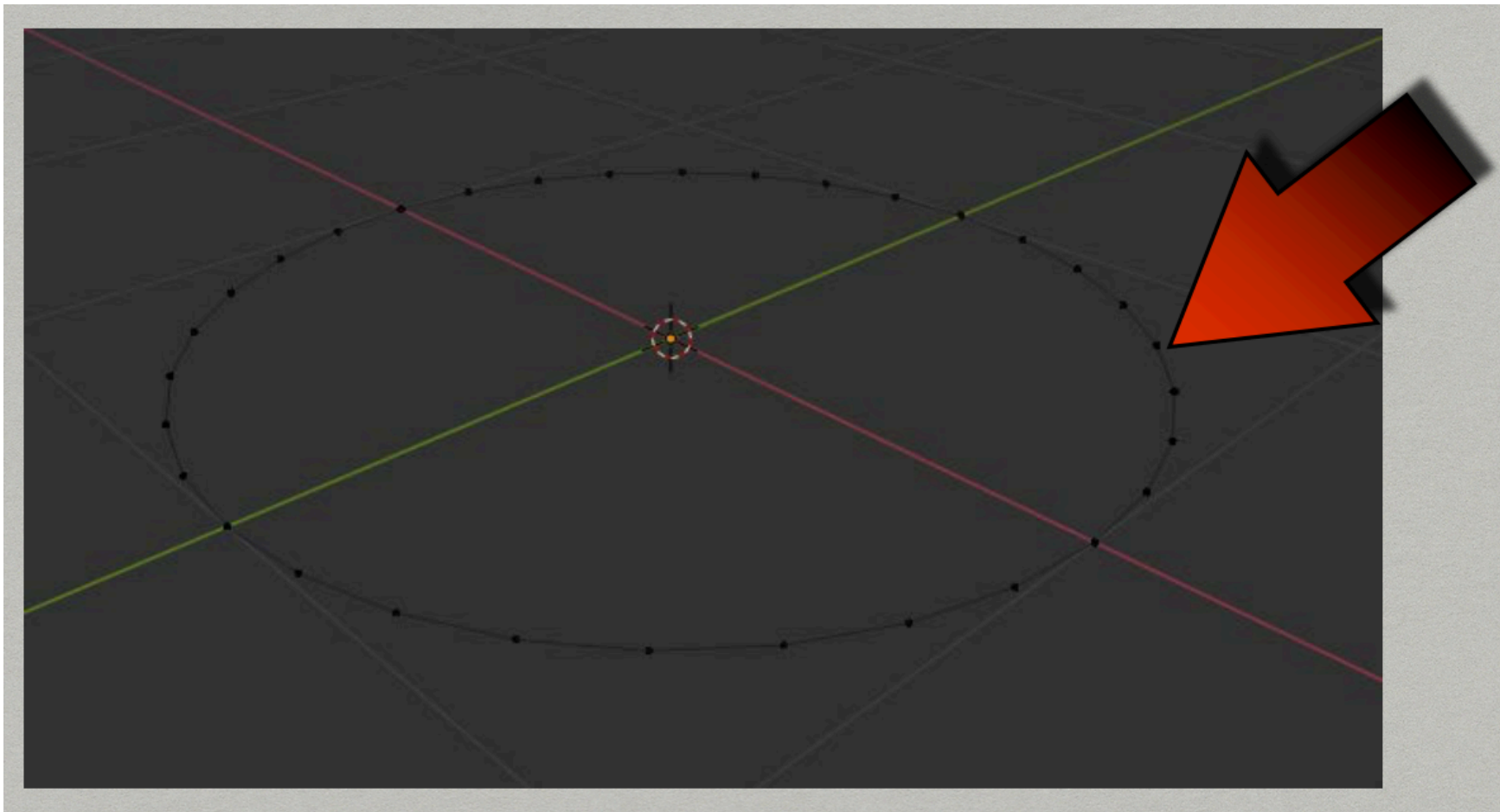
(orange color means selection)



CHESS PAWN

Deselecting vertex

ALT + A



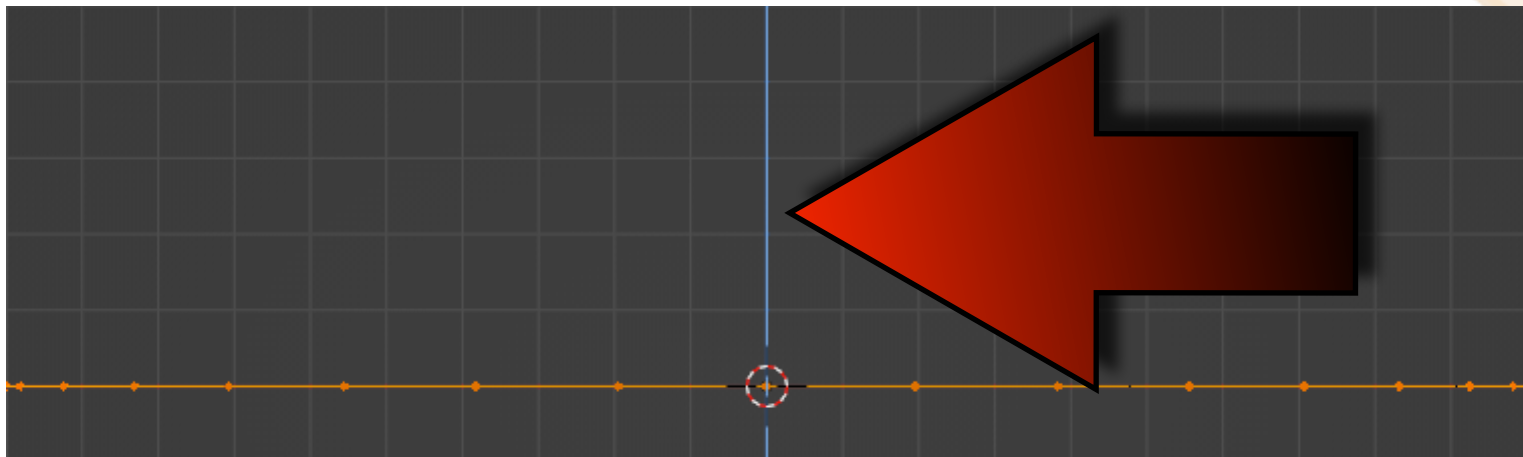
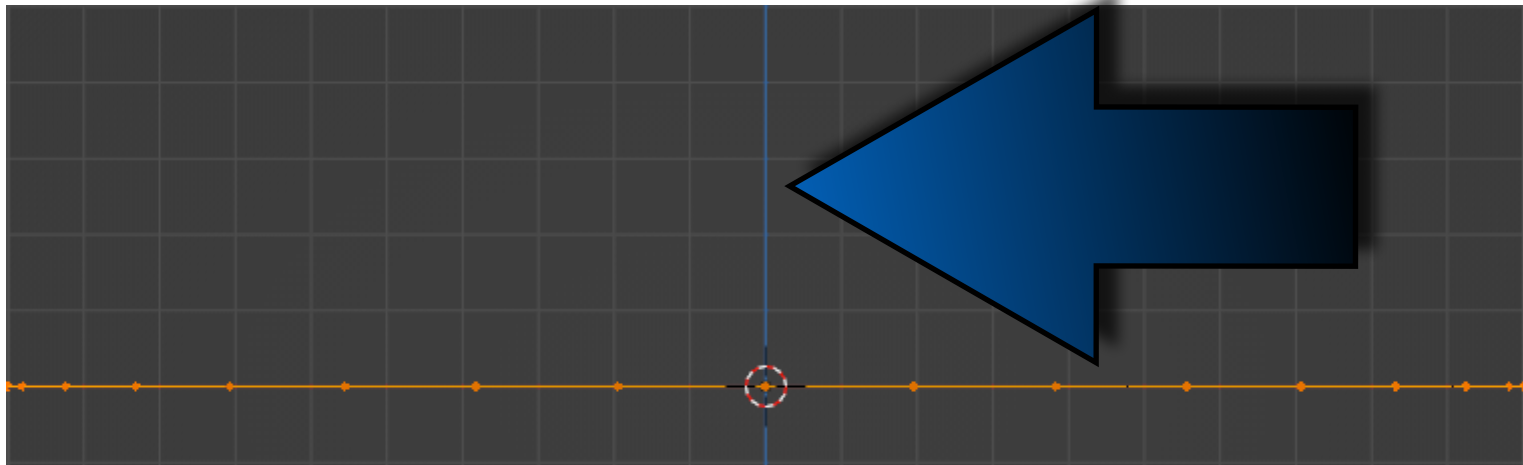
CHESS PAWN

**If something fails
each operation
can be undone
using **CTRL + Z****



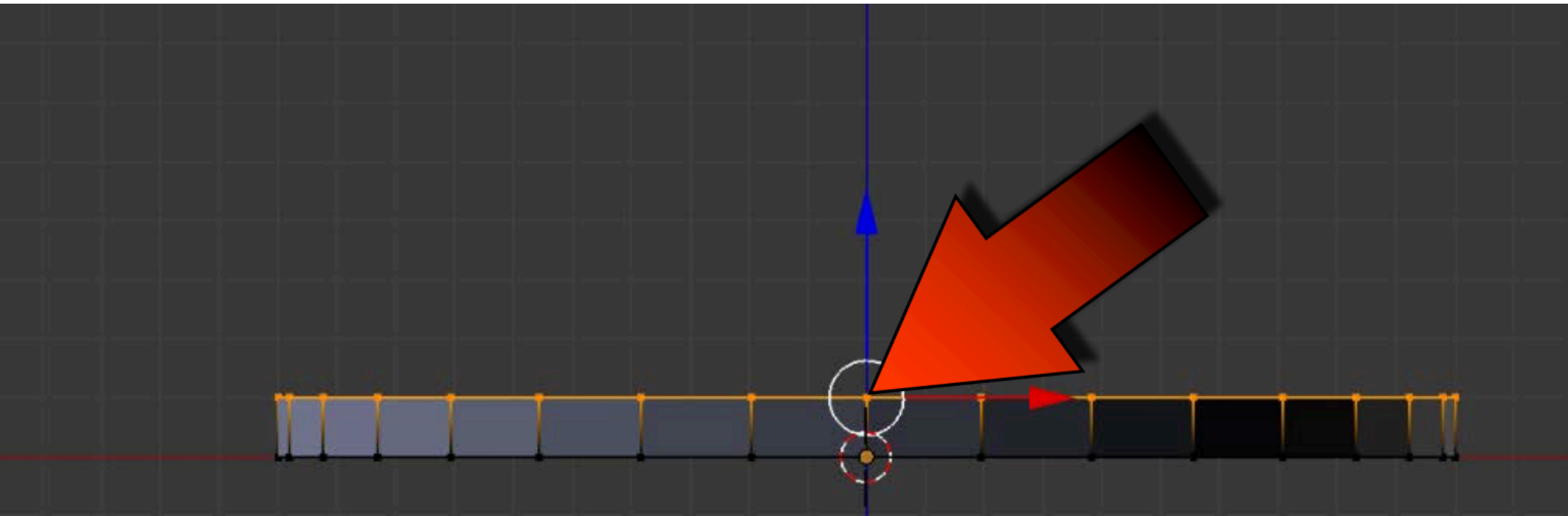
CHESS PAWN

Press the **E Key** and then the **Z Key**
(the Z axis will become brighter)



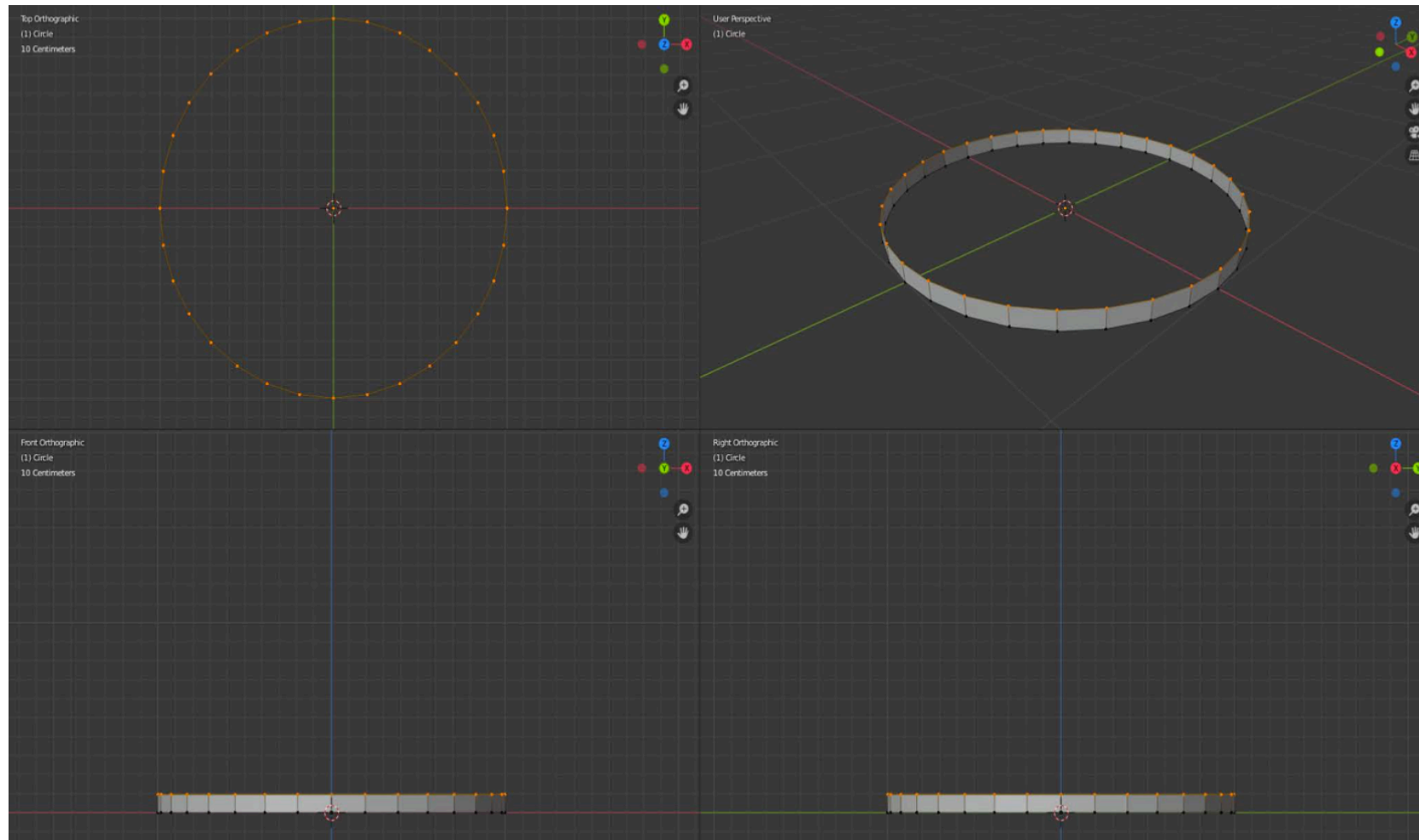
CHESS PAWN

Then you
move the mouse up



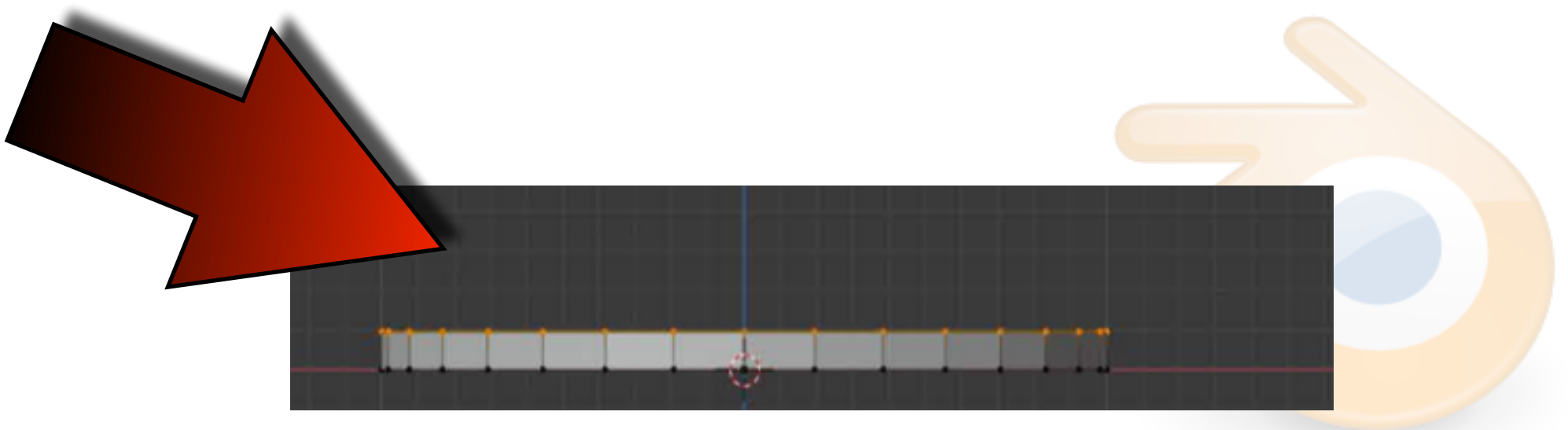
CHESS PAWN

CLICKING WITH YOUR MOUSE CONFIRMS YOUR CHOICE



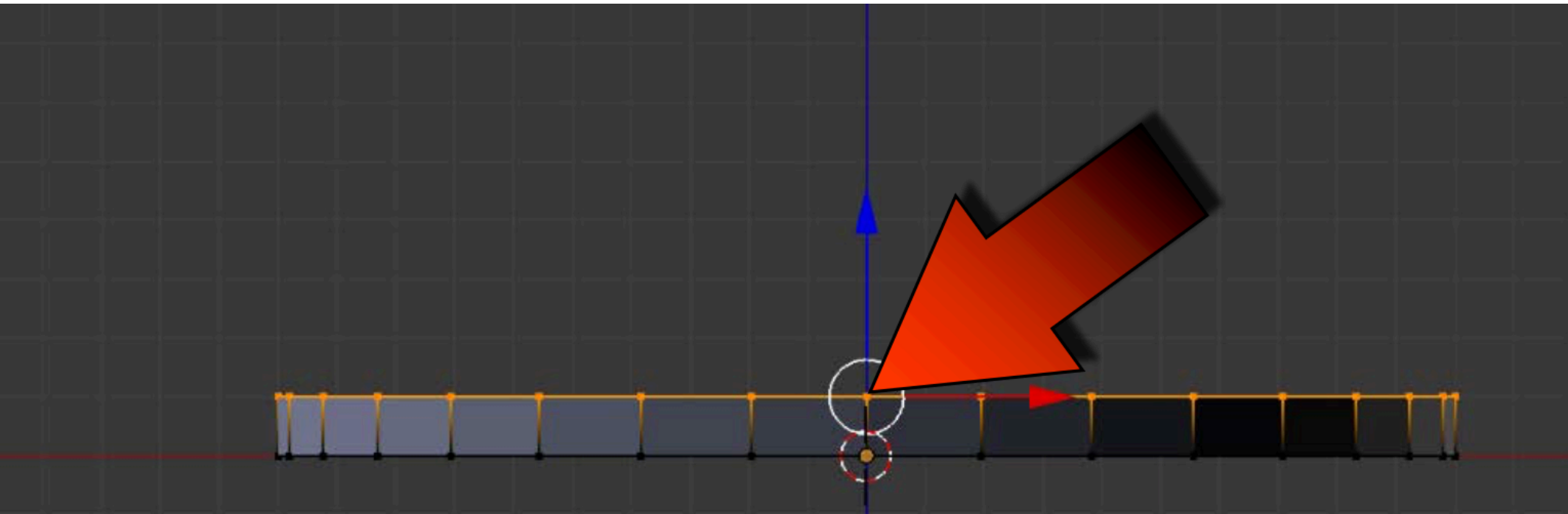
CHESS PAWN

**If we want the object to be created
exactly like
the mesh we see in the background,
we hold down the
CTRL key while moving it.**



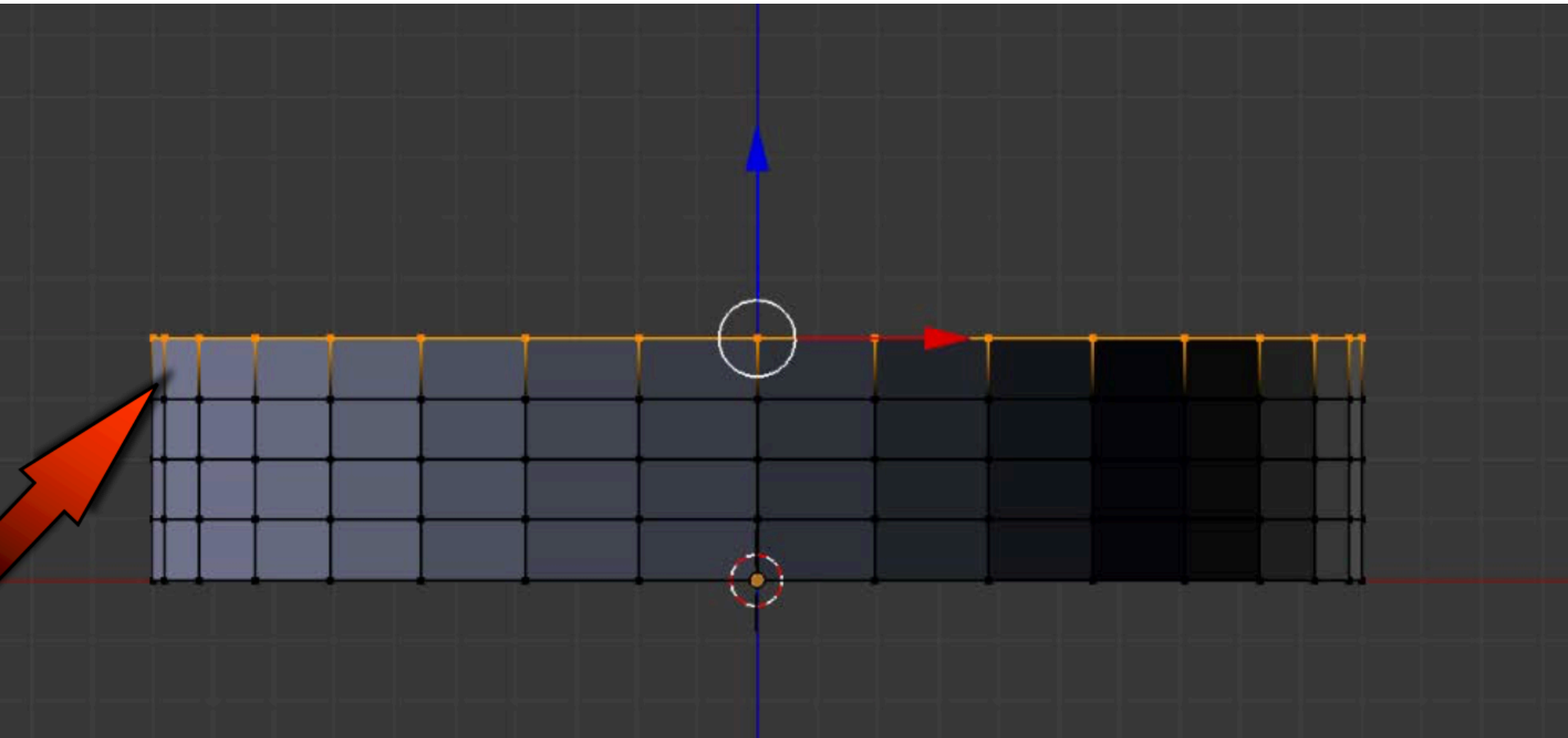
CHESS PAWN

To set **very precisely** we can
use the **SHIFT** key.



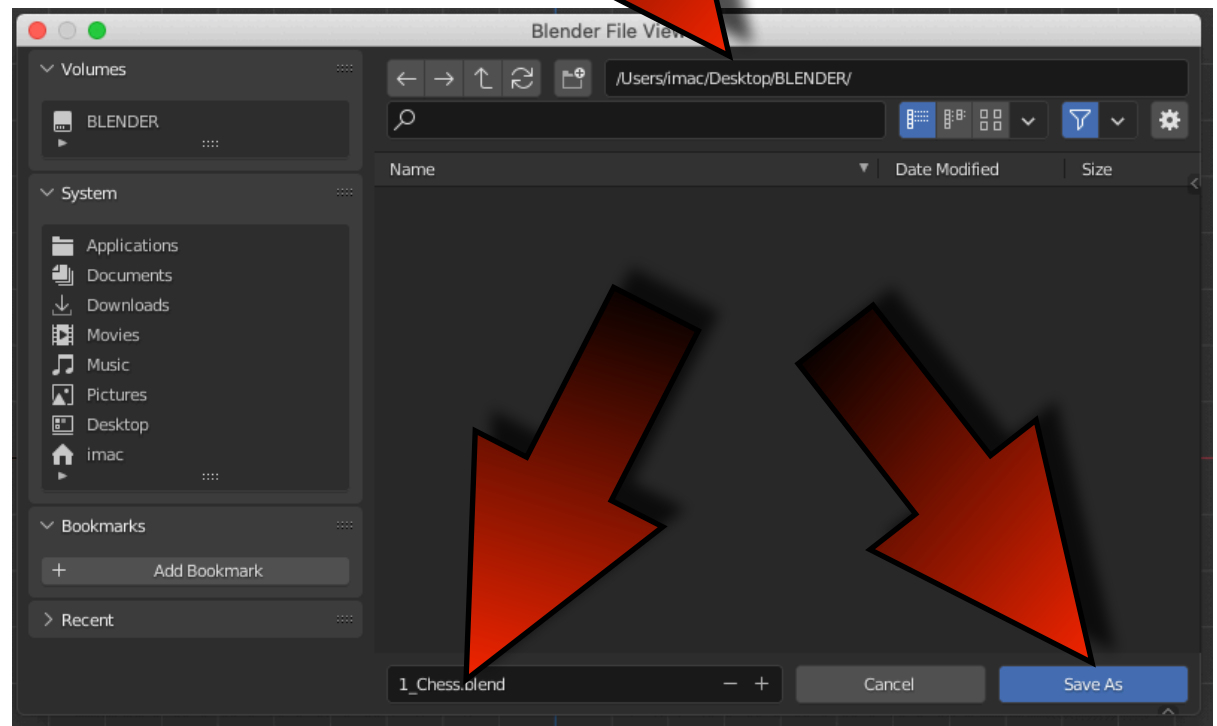
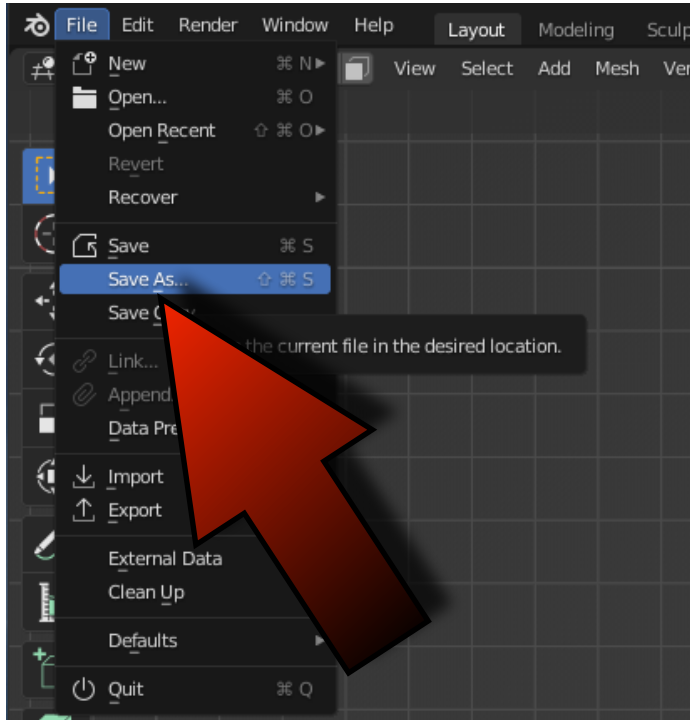
CHESS PAWN

We repeat the last step
3 times.



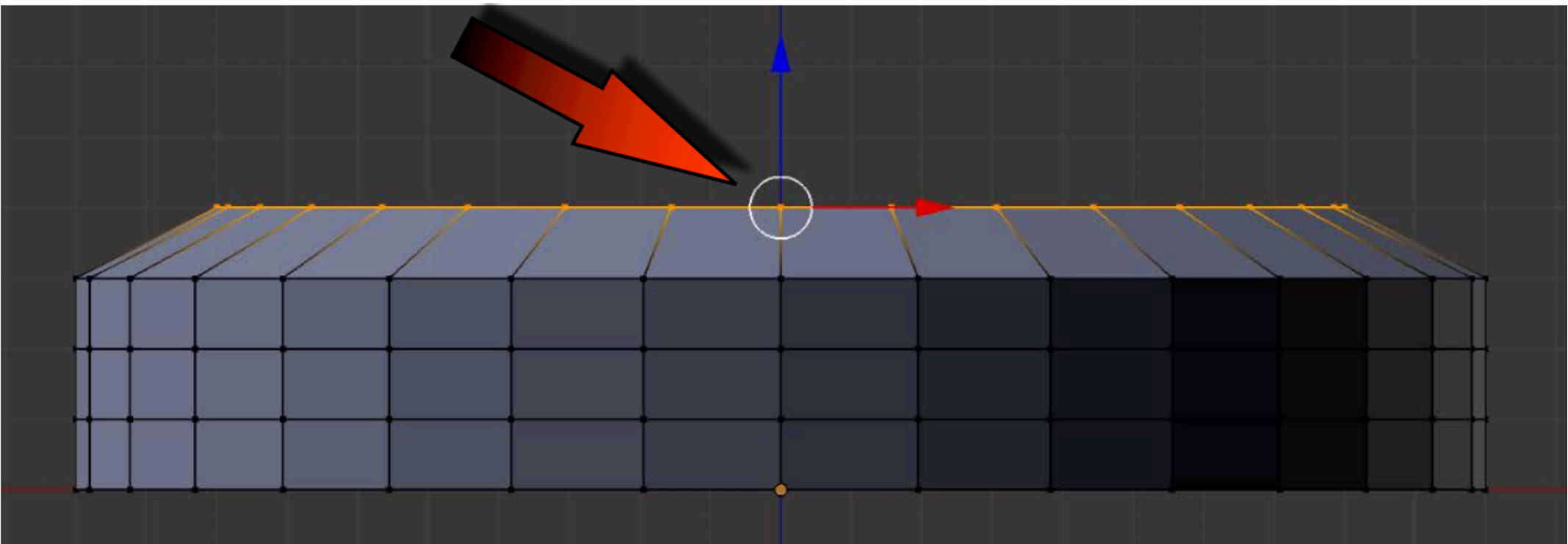
CHESS PAWN

Save file as **1_Chess.blend**



CHESS PAWN

Press **S key and move the mouse
to the center of the object.**



CHESS PAWN

The **extruding with the **CTRL** key
will take place what grilles
that are visible.**

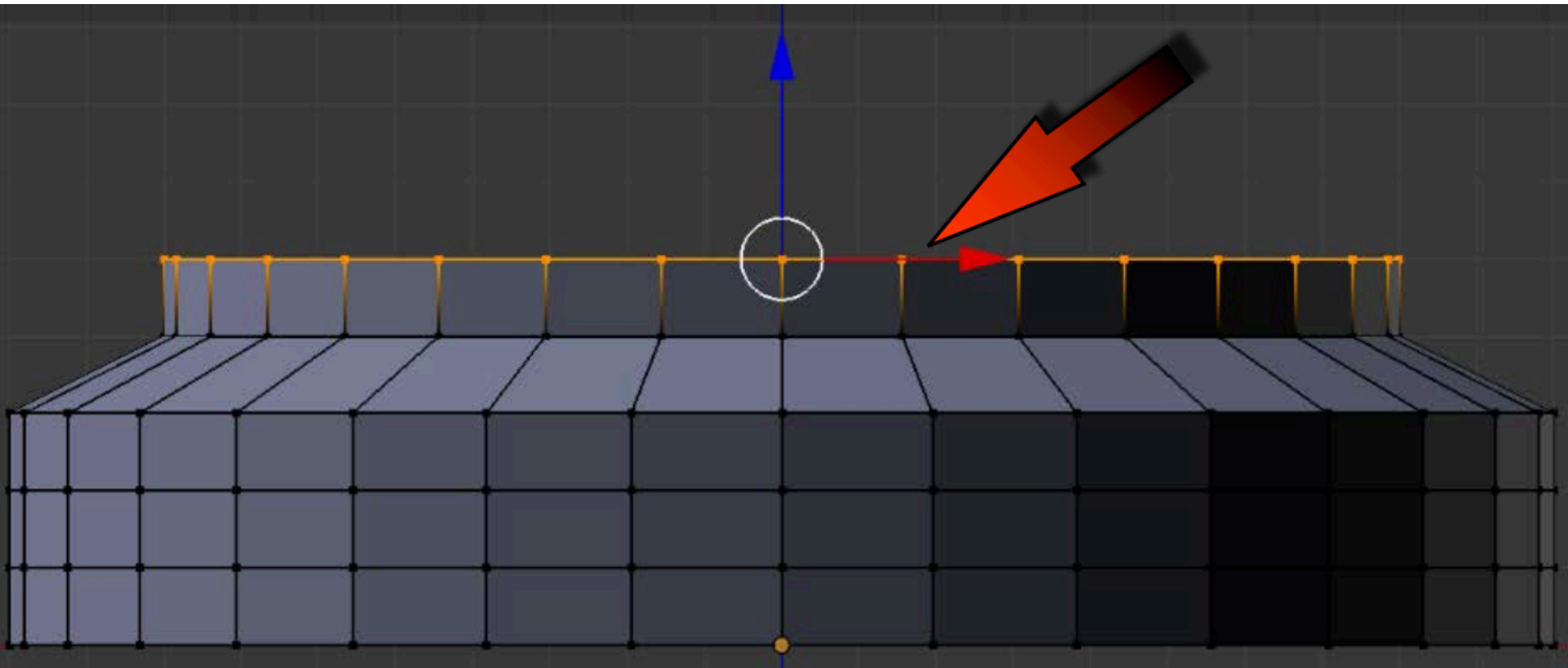
**The visibility of the grids can be
changed by moving the object
closer or further away.**



CHESS PAWN

Press **E** then **Z**.

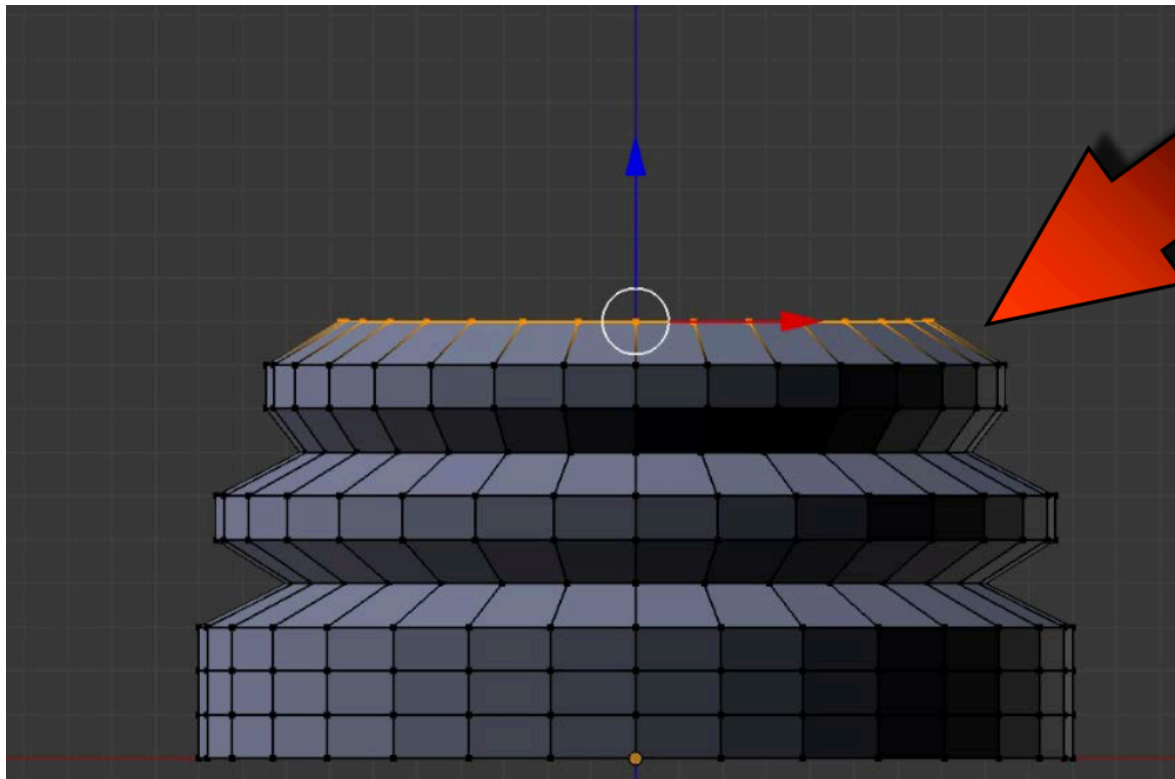
Then while **holding CTRL**
move the mouse one square up.



CHESS PAWN

Press the **S key and move the mouse from the center.**

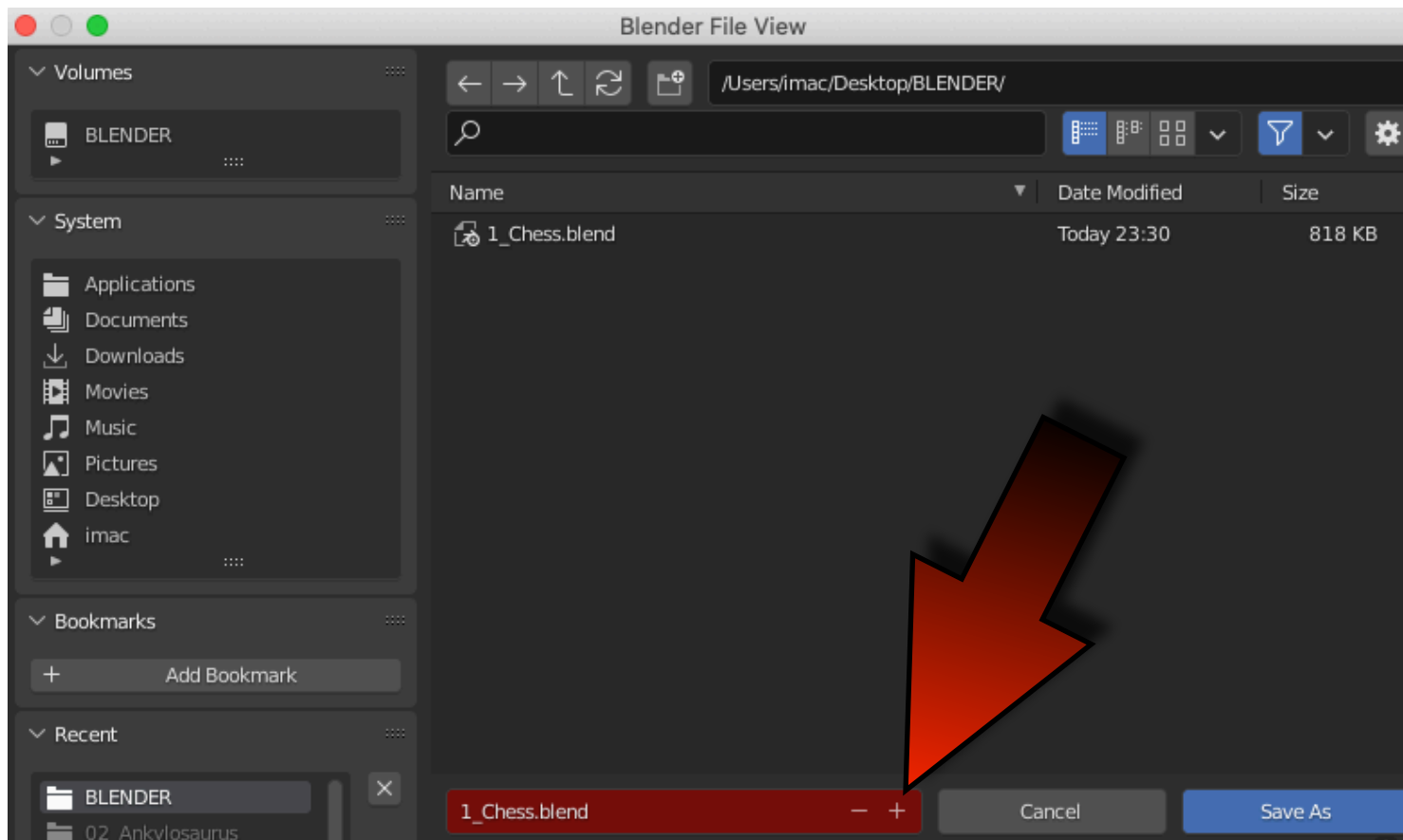
Repeat it again to get this effect.



CHESS PAWN

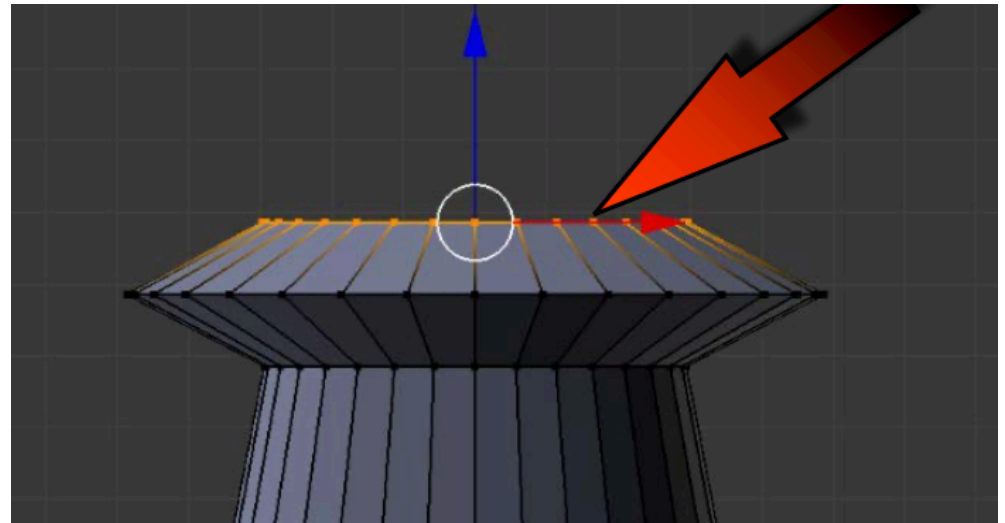
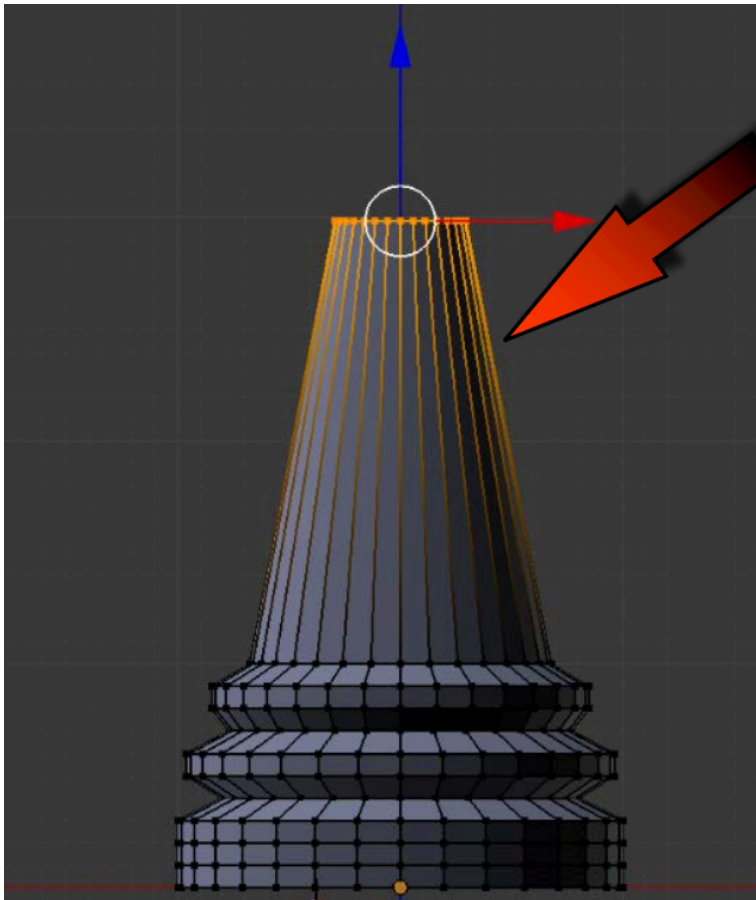
Save file as **2_Chess.blend**

Use **+** to rename



CHESS PAWN

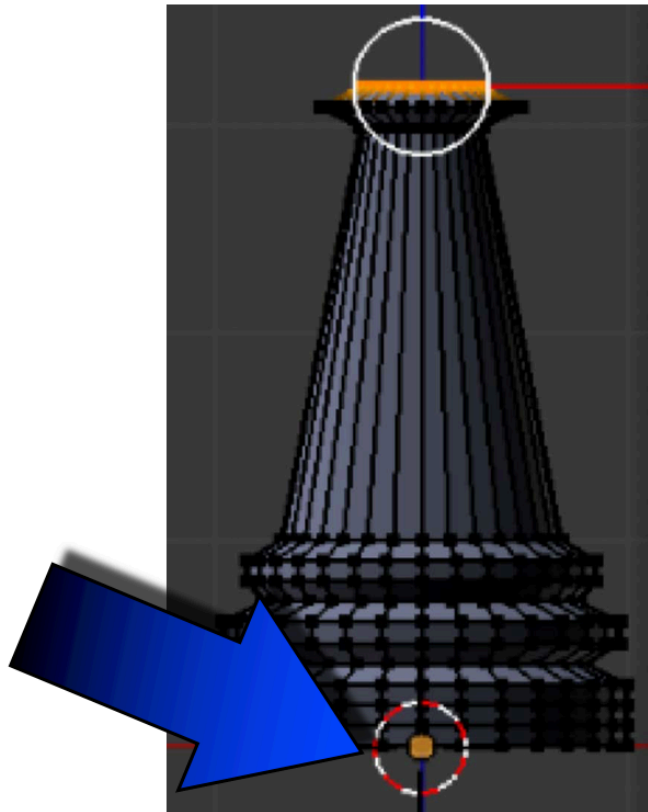
**We create the leg in the same way,
only changing the proportions.**



CHESS PAWN

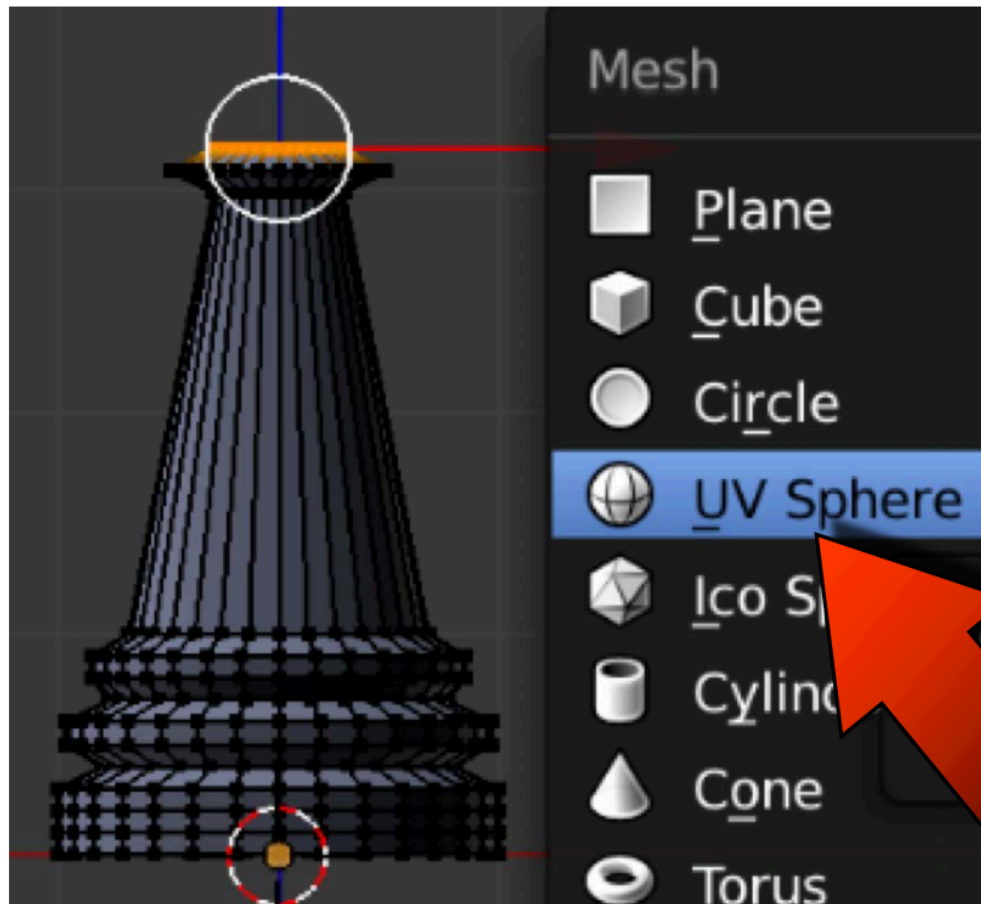
Press **SHIFT + C**

(the **3D cursor** will move to the center of the coordinate system)



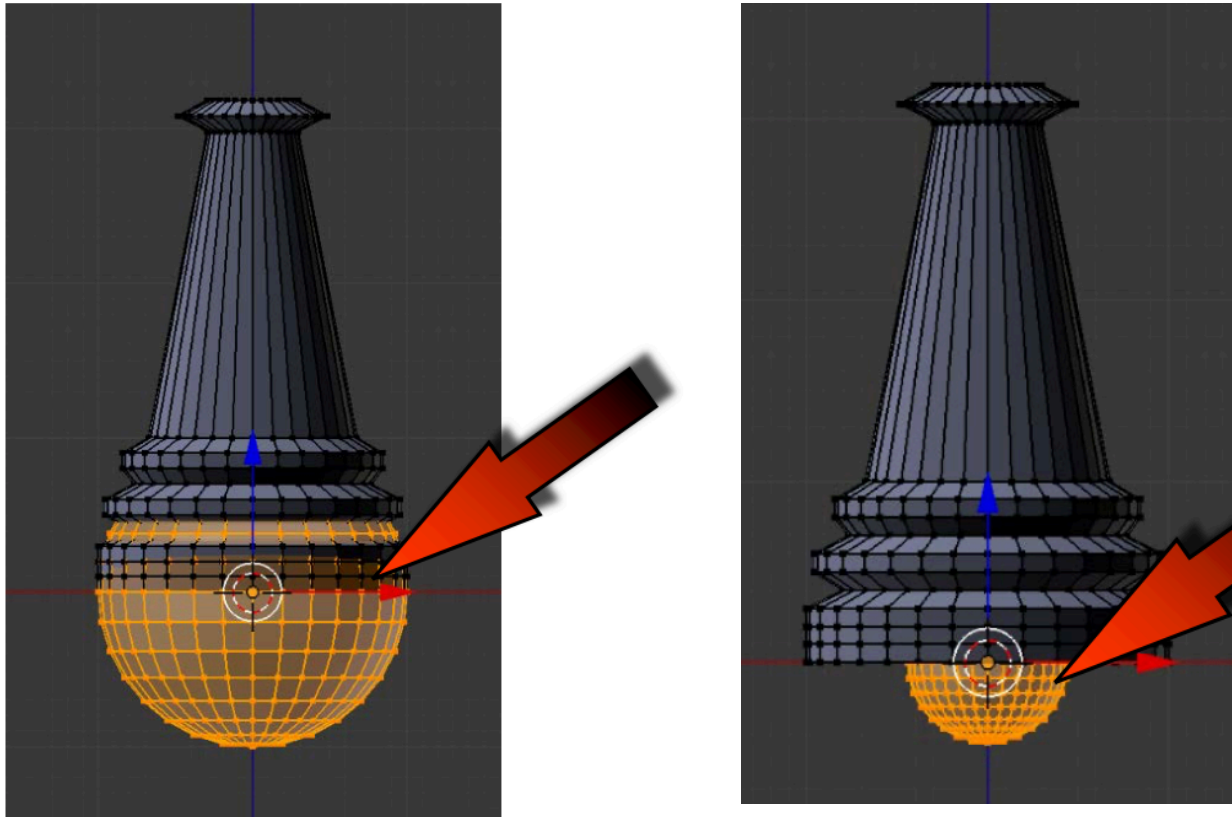
CHESS PAWN

Click on **SHIFT + A**
and add **UV Sphere**



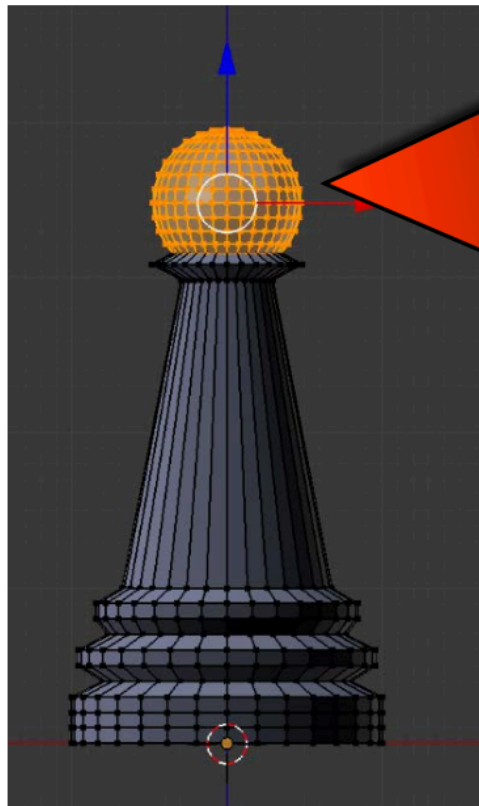
CHESS PAWN

The ball is **too large** and must be reduced with the **S** key.



CHESS PAWN

Click **G (grab) and then Z (axis selection) and the mouse we move the ball up.**

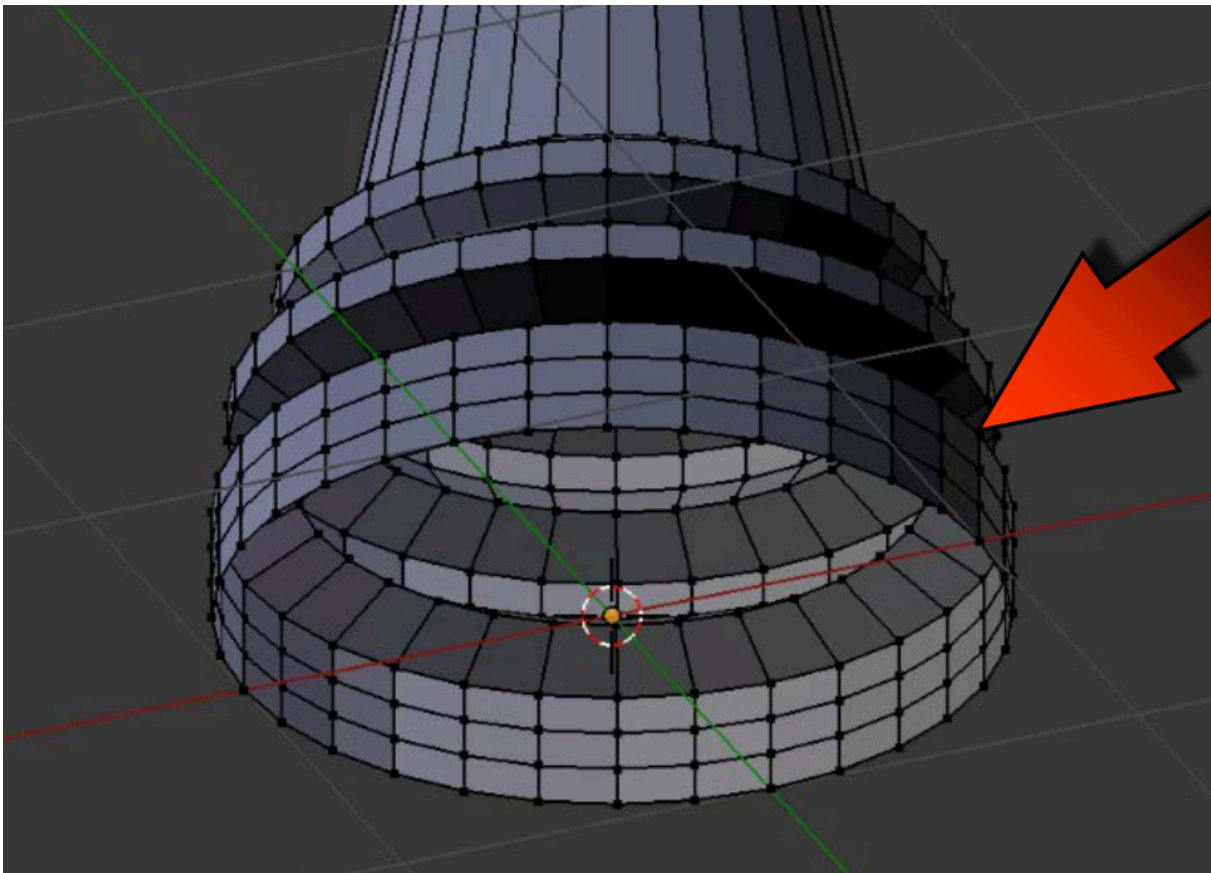


Save file as
3_Chess.blend



CHESS PAWN

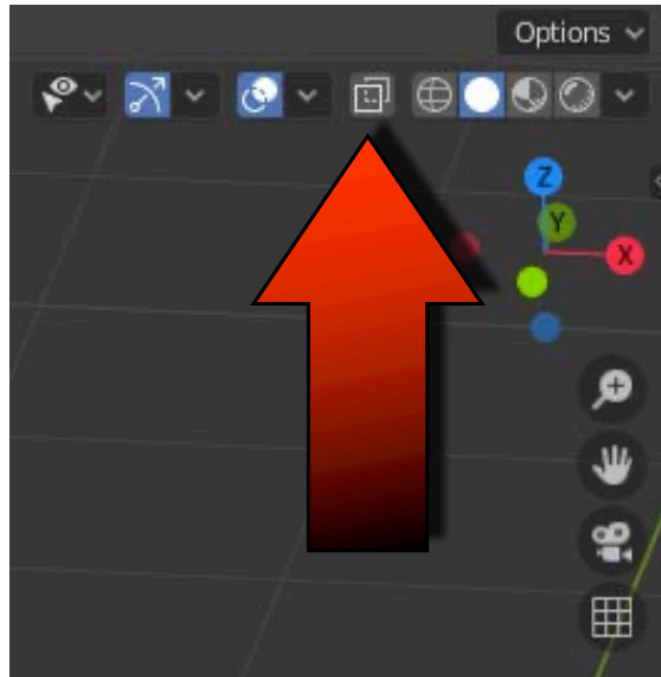
**The pawn at the bottom
is not locked.**



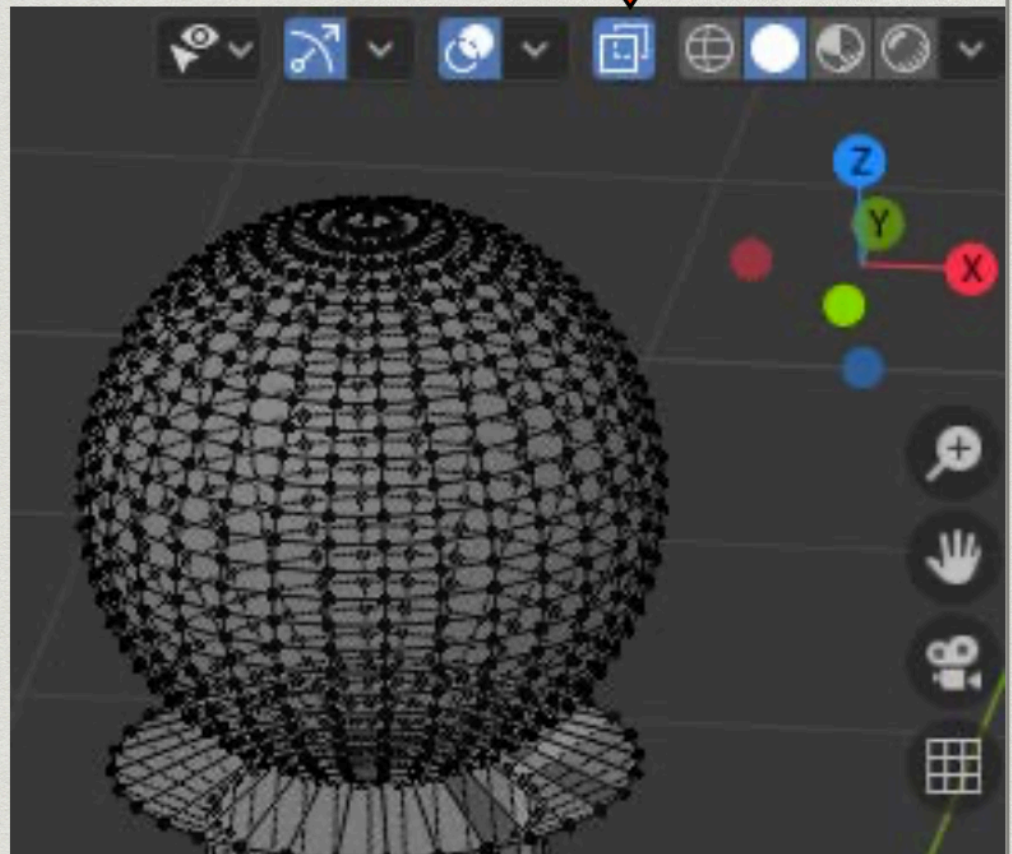
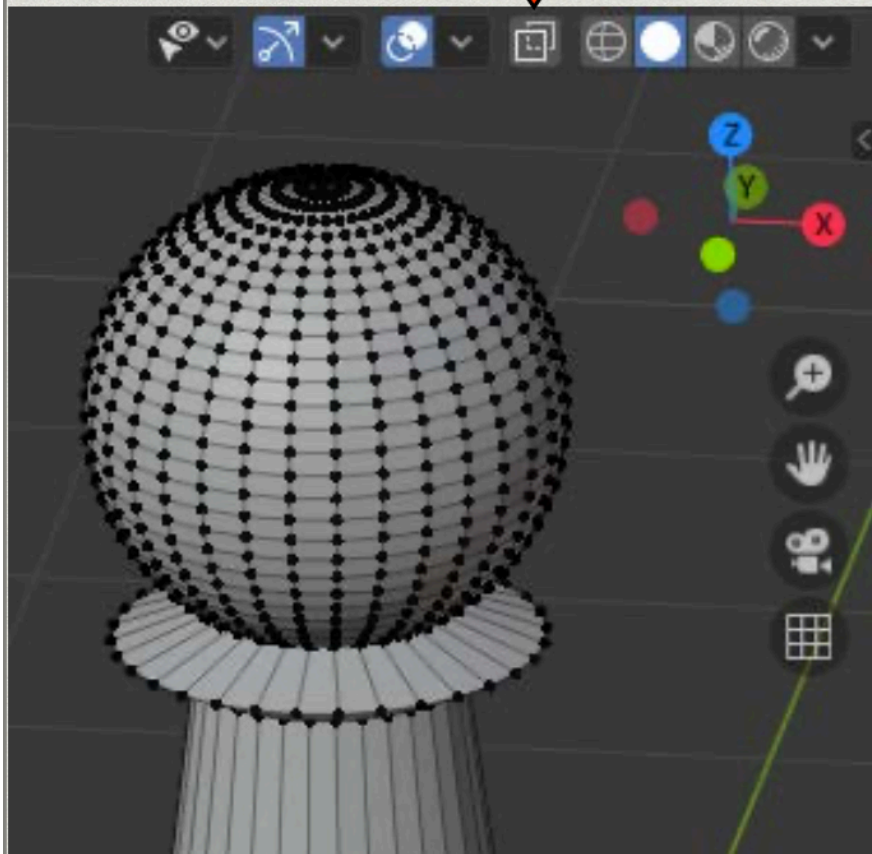
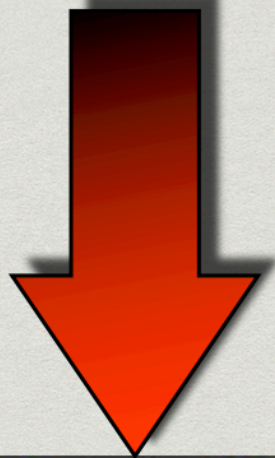
CHESS PAWN

**To select the edges
on the front and back of the object,
we must mark their visibility.**

**Click on the button that will
turn it on all edges visible.**

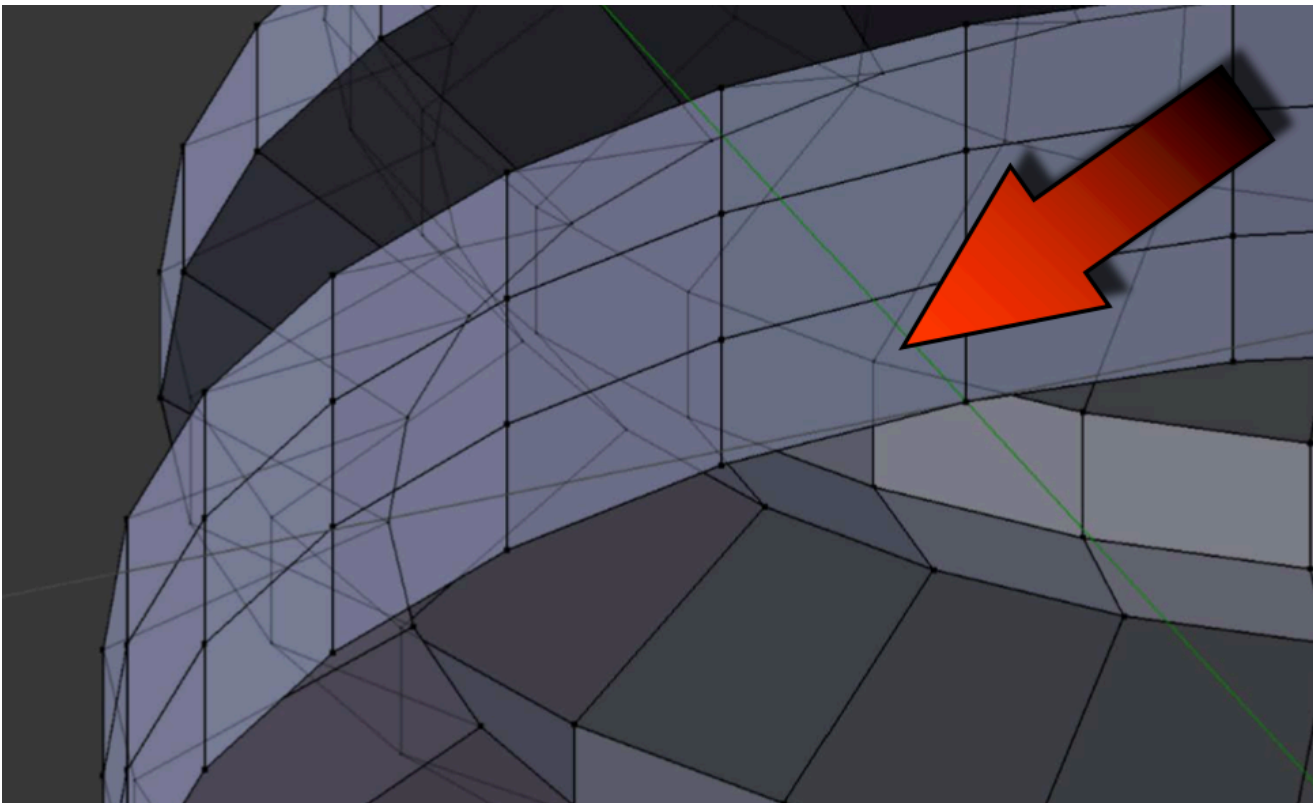


CHES PAWN



CHESS PAWN

**After turning it on, we will clearly
see all of them
edges on the front and back.**



CHESS PAWN

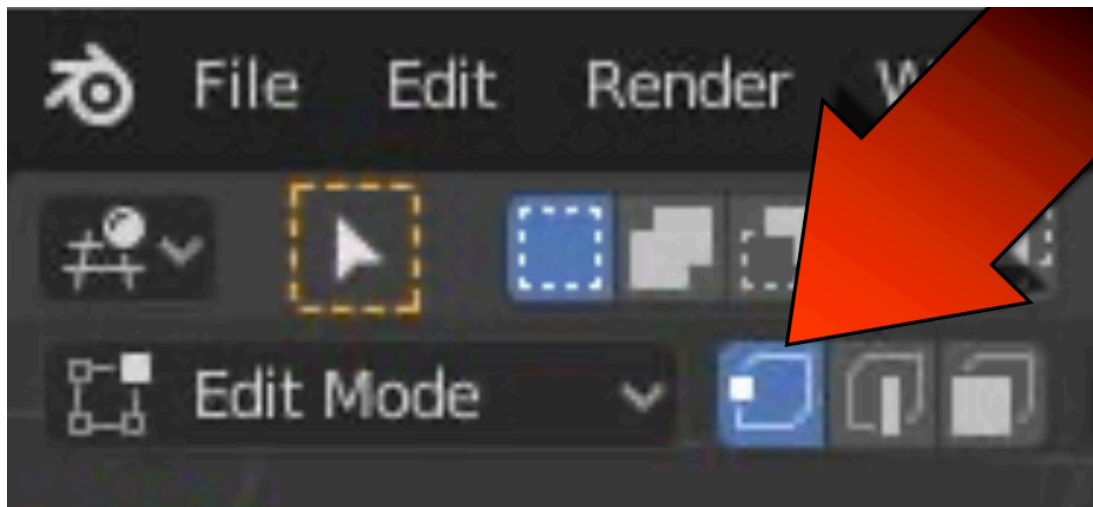
Click **Numpad 1** (FRONT ORTO).

Next a button to select

only the vertex

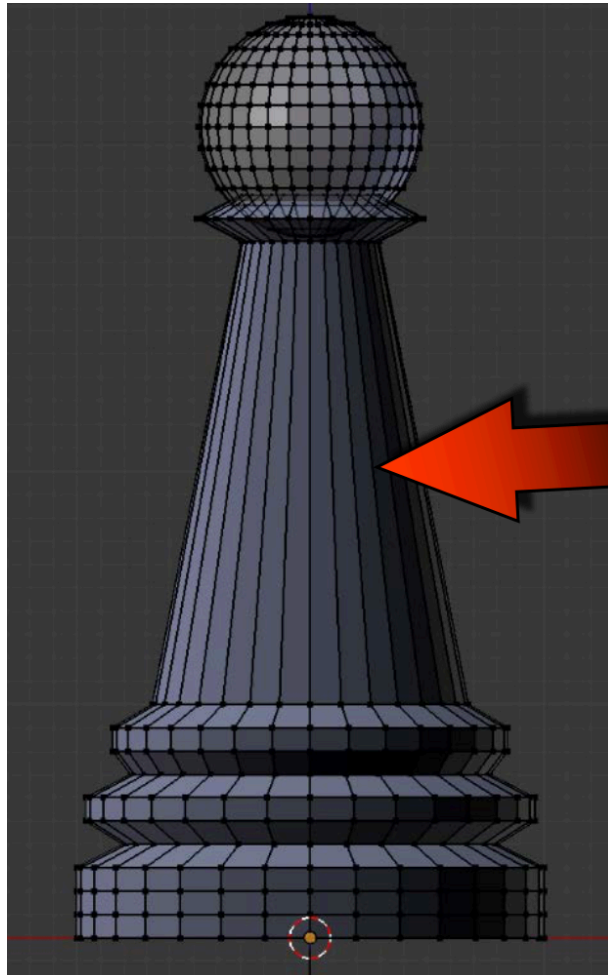
or 1 Key

FROM LARGE KEYBOARD



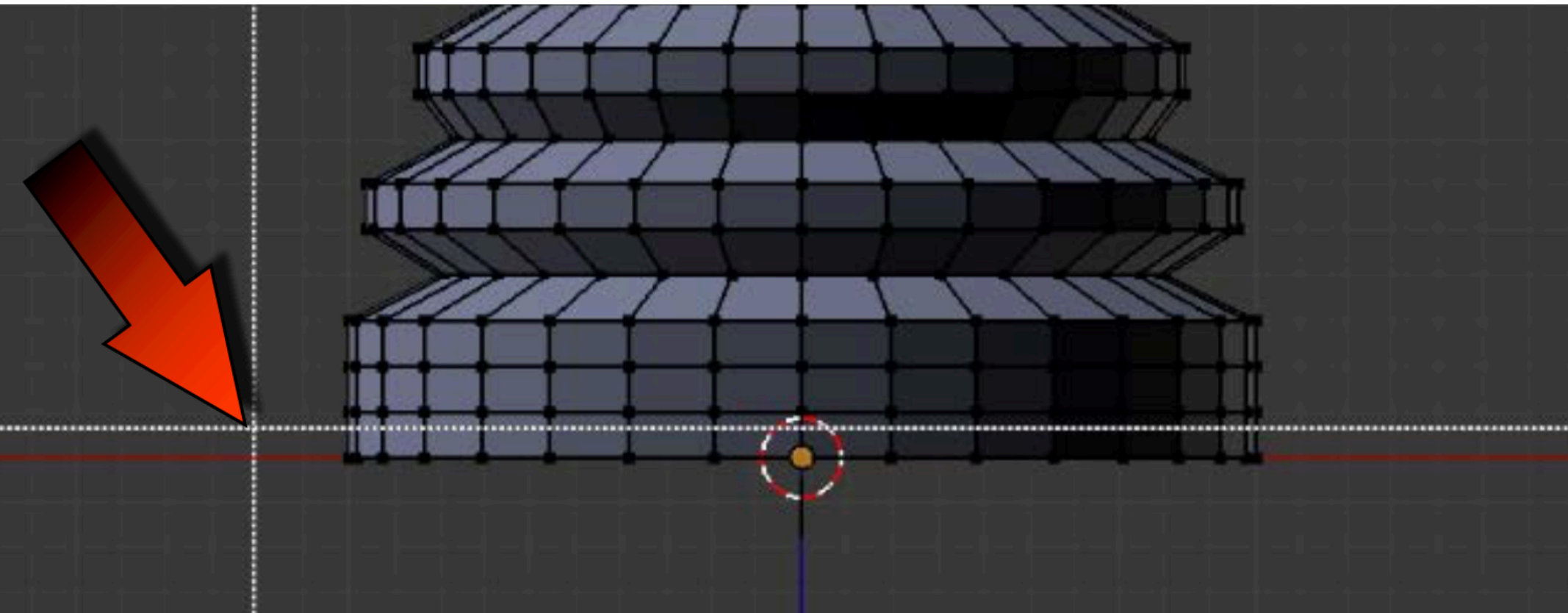
CHESS PAWN

Press **ALT + A** to turn off
all selected items



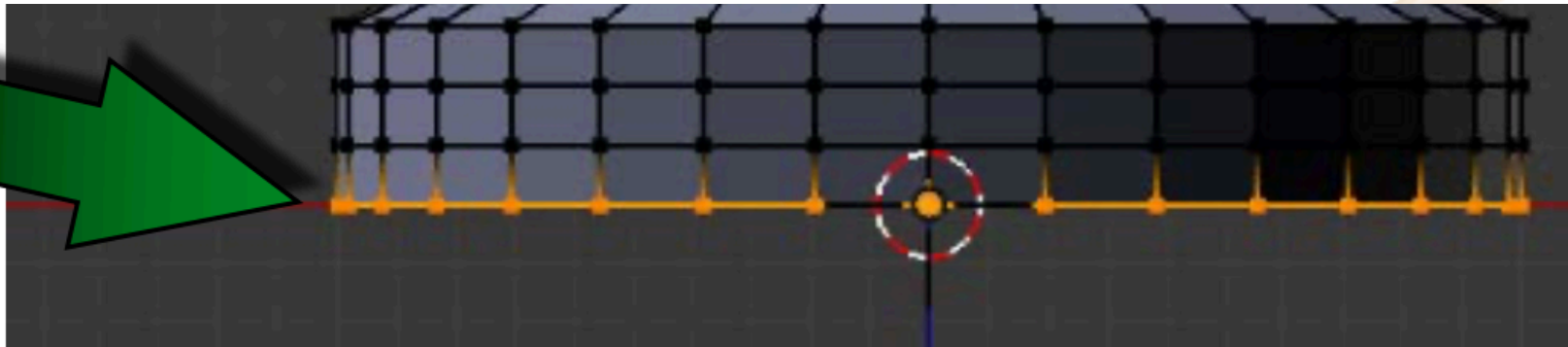
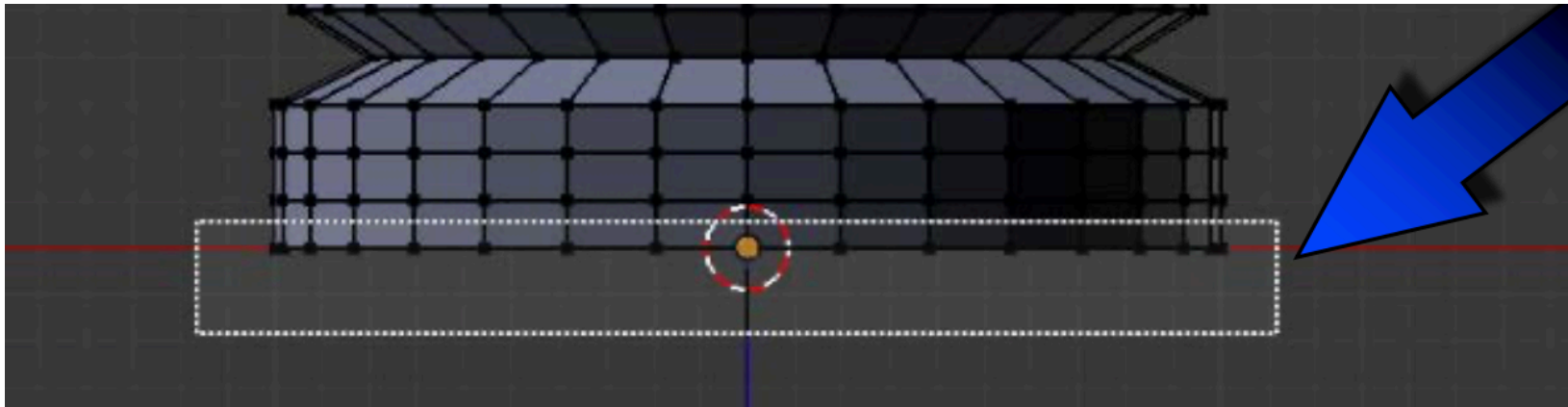
CHESS PAWN

Click on the **B Key**
and place the mouse
in the right place



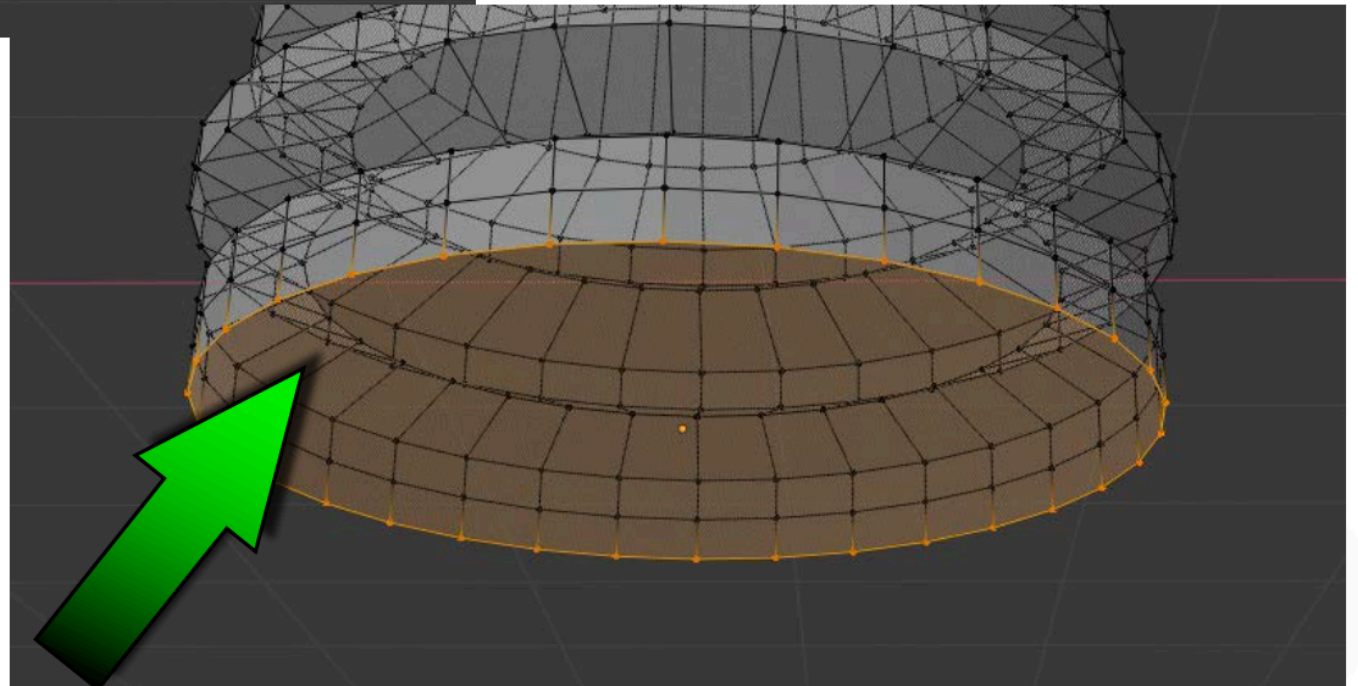
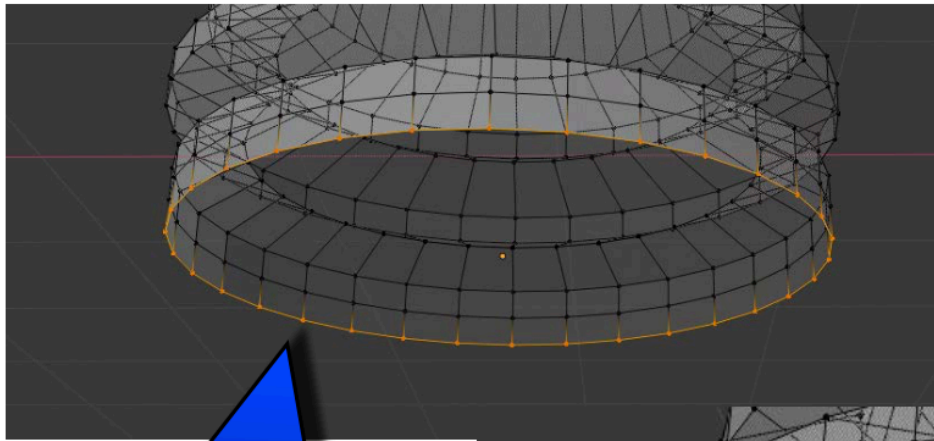
CHESS PAWN

Then we only mark
lower vertex of the pawn
(orange color means selection)



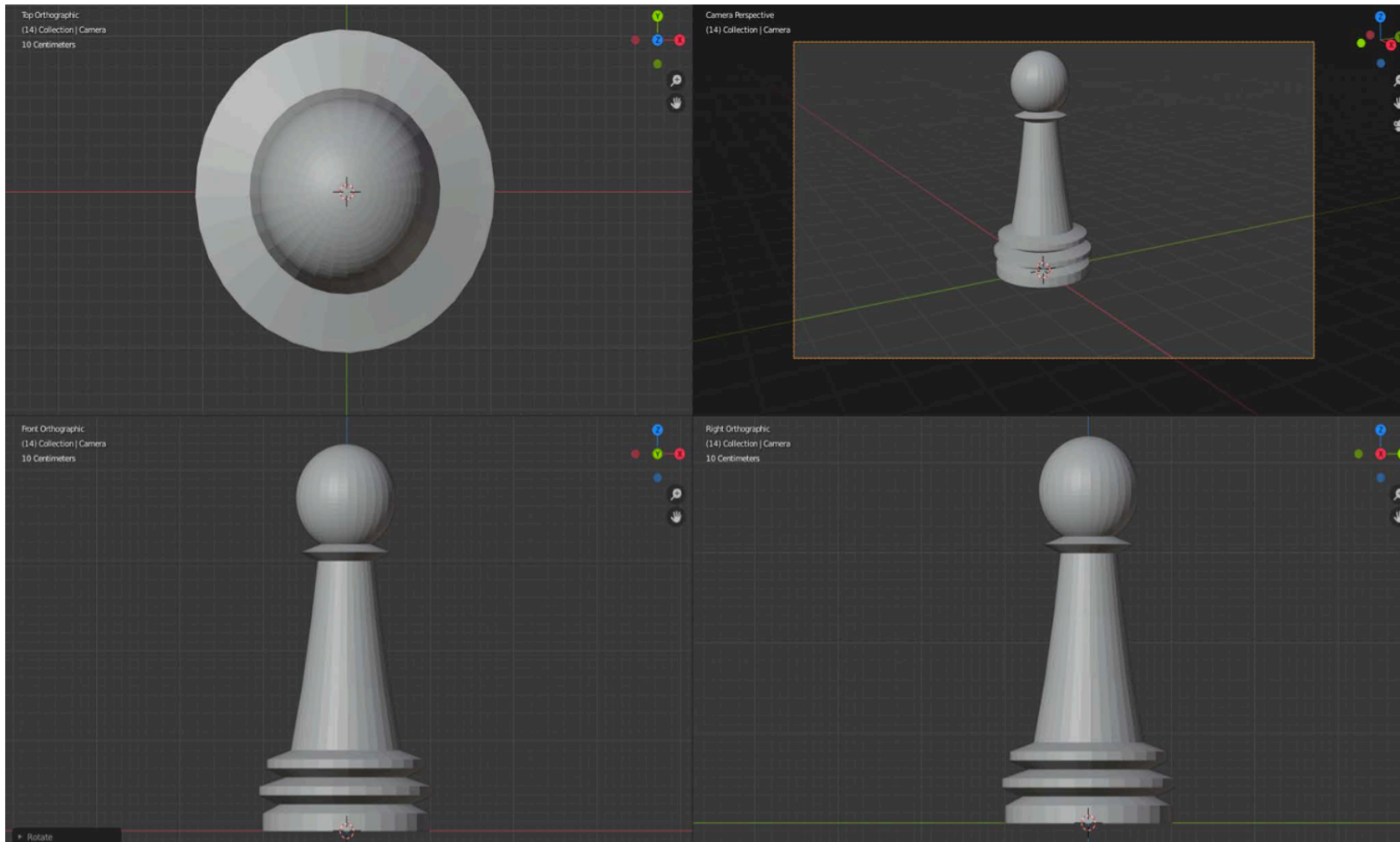
CHESS PAWN

Click on the **F key** - **FACE**



CHESS PAWN

Press the **TAB** key to return to the **OBJECT** MODE



CHESS PAWN

**There are many ways to achieve
a given effect.**

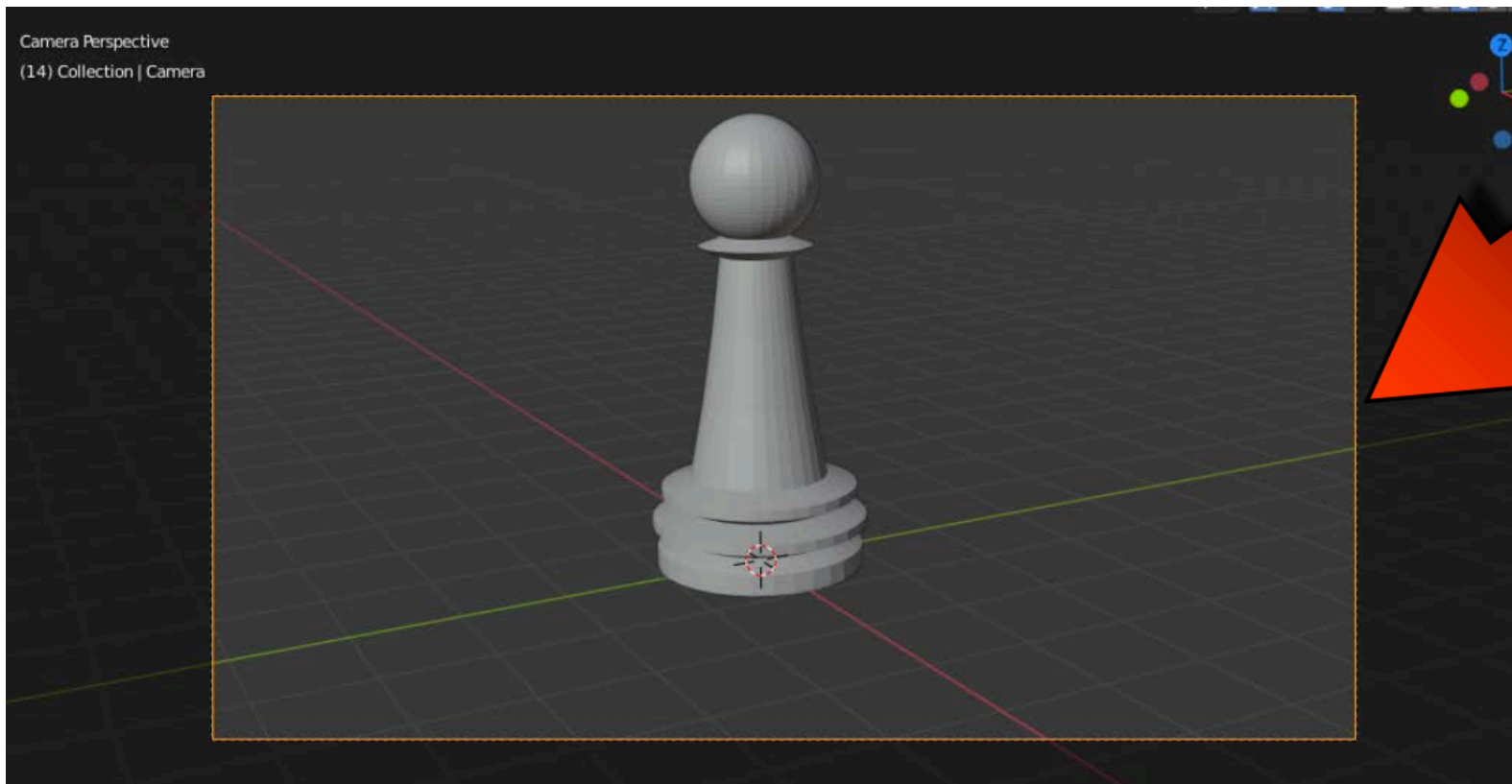
THE SIMPLER THE BETTER.

**This will be especially
noticeable when creating
models for 3D printing.**



CHESS PAWN

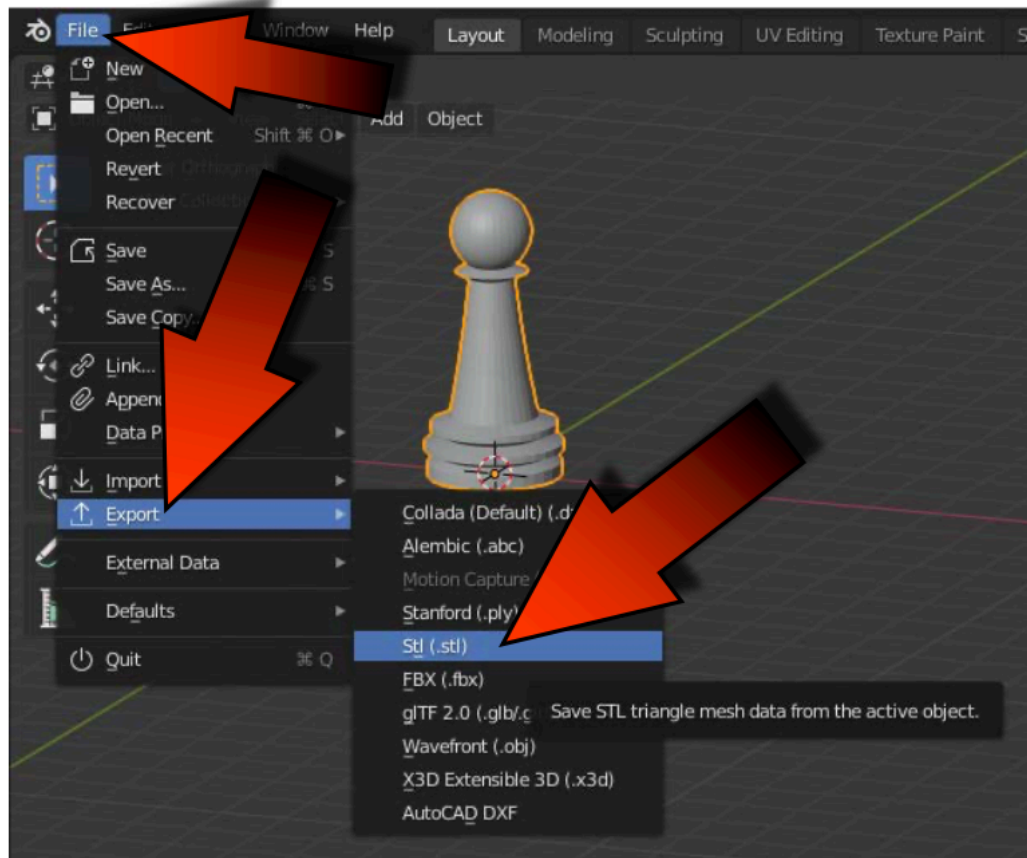
Press **Numpad-0** to see the
CAMERA view



CHESS PAWN

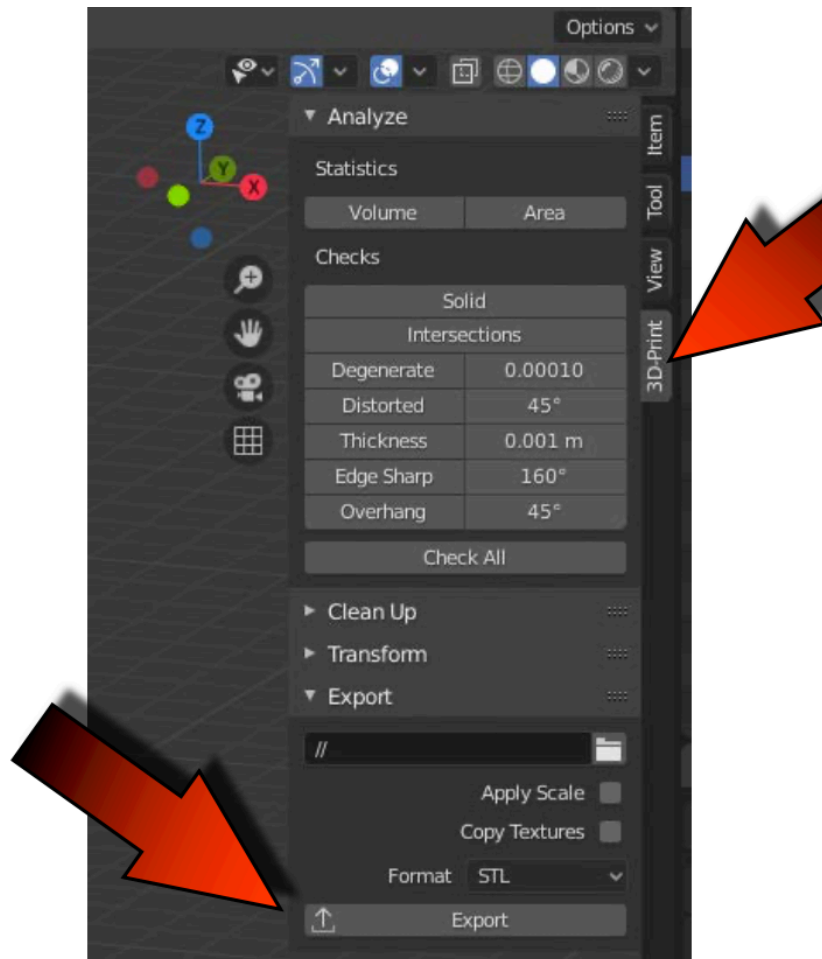
**To save a pawn as an STL file
for 3D printing**

select FILE / EXPORT / STL



CHESS PAWN

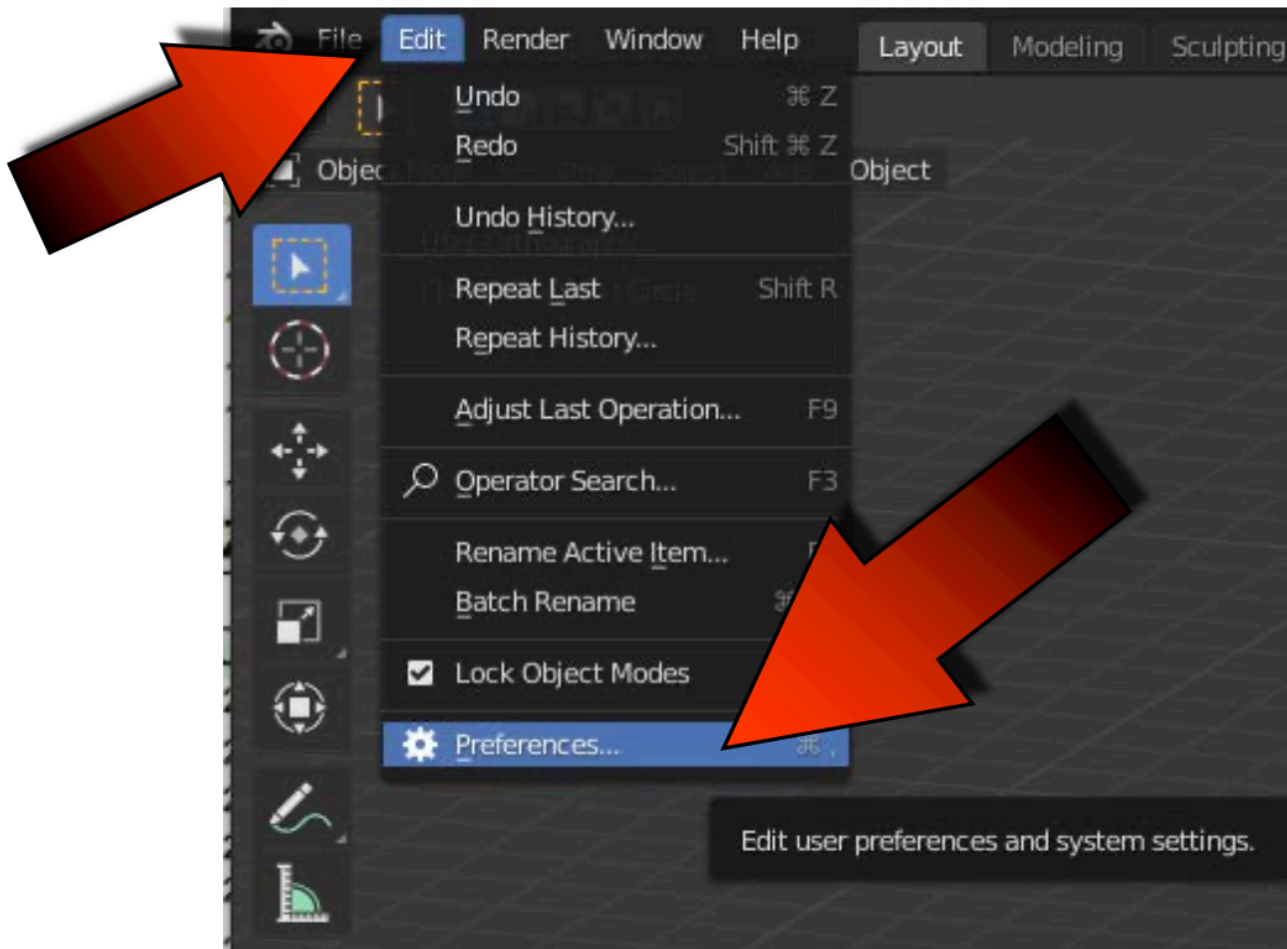
You can also **turn on a section** that will make our work easier.



CHESS PAWN

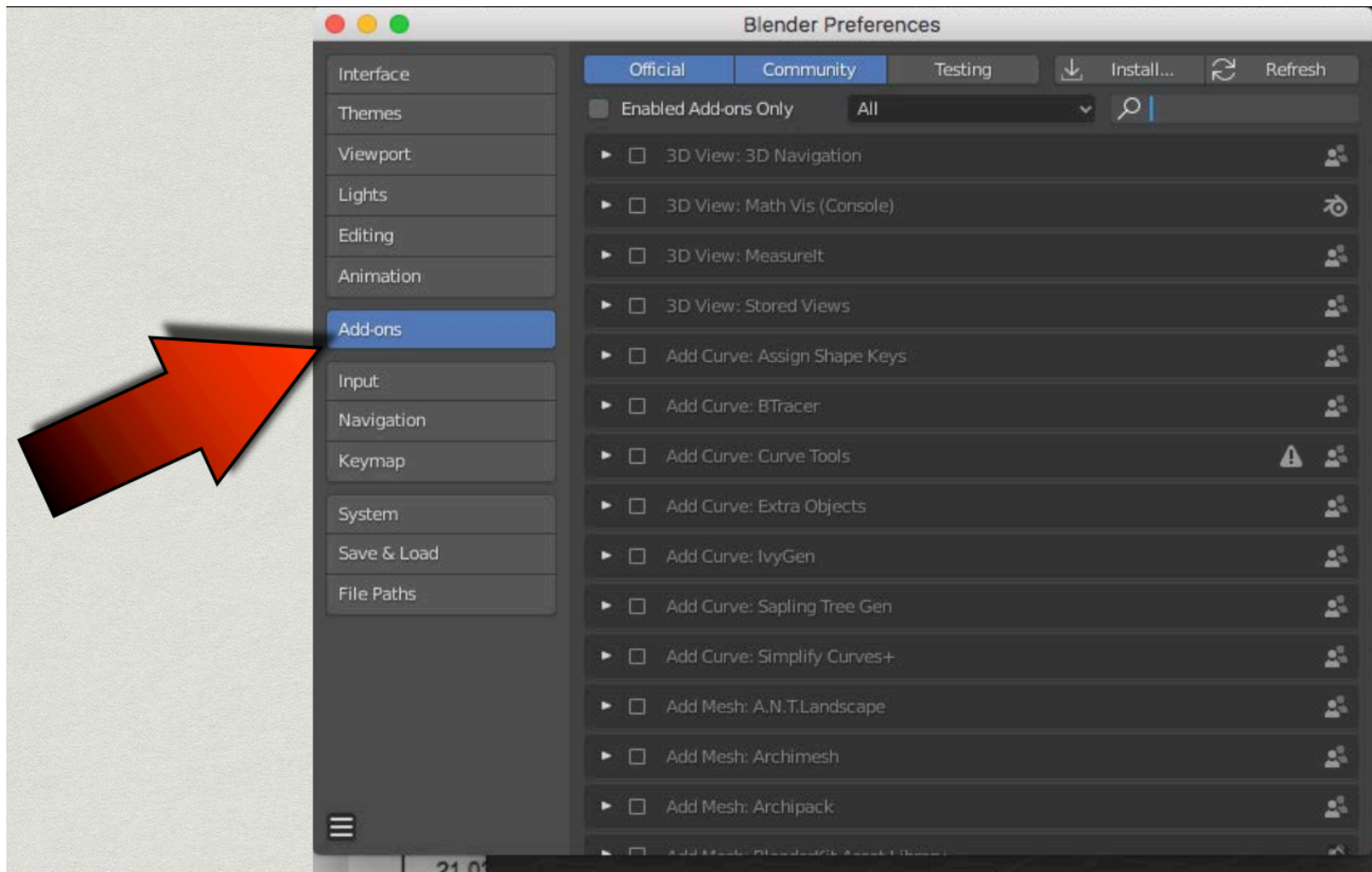
Choose

Edit / PREFERENCES



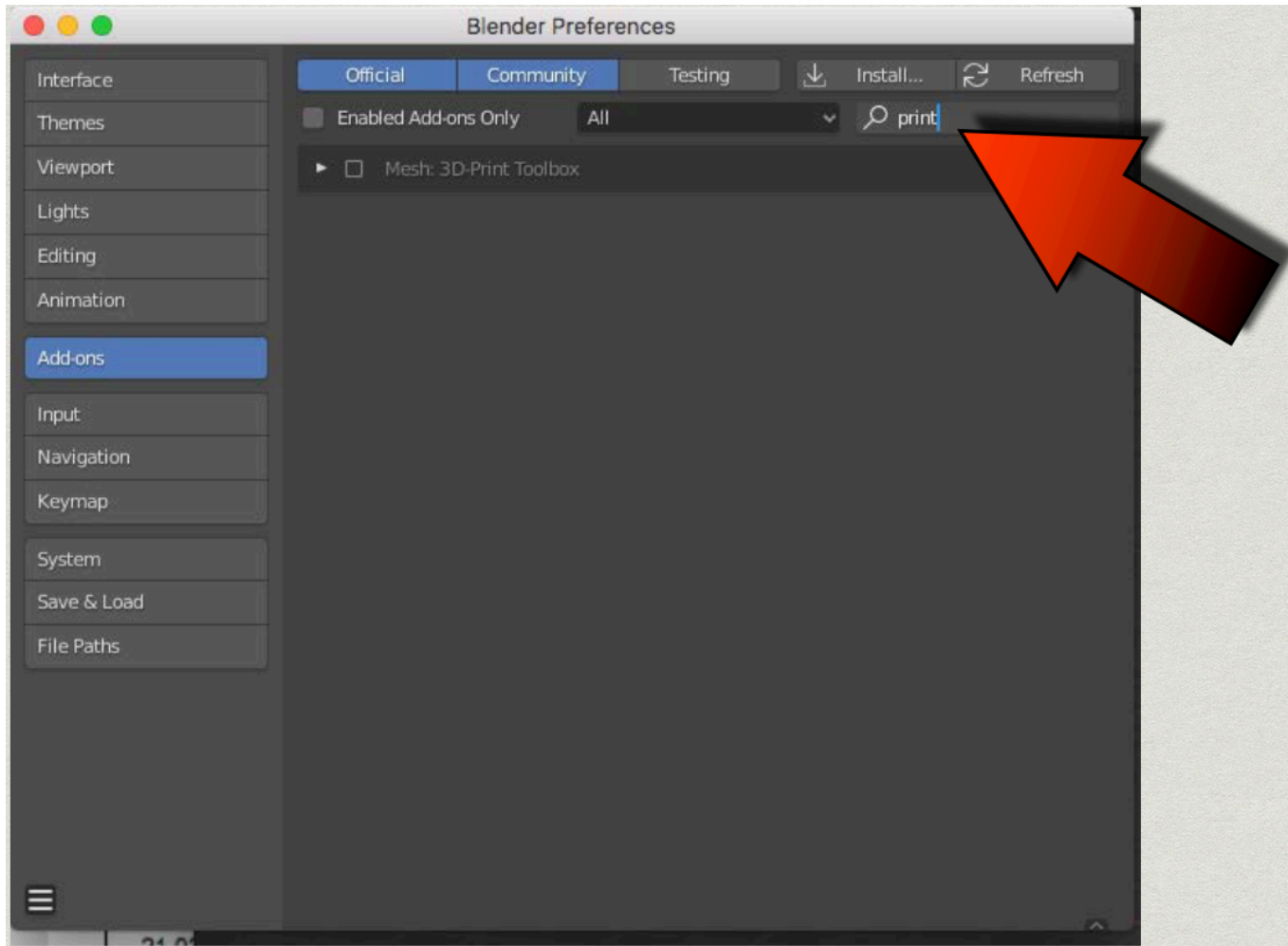
CHESS PAWN

Choose Add-ons



CHESS PAWN

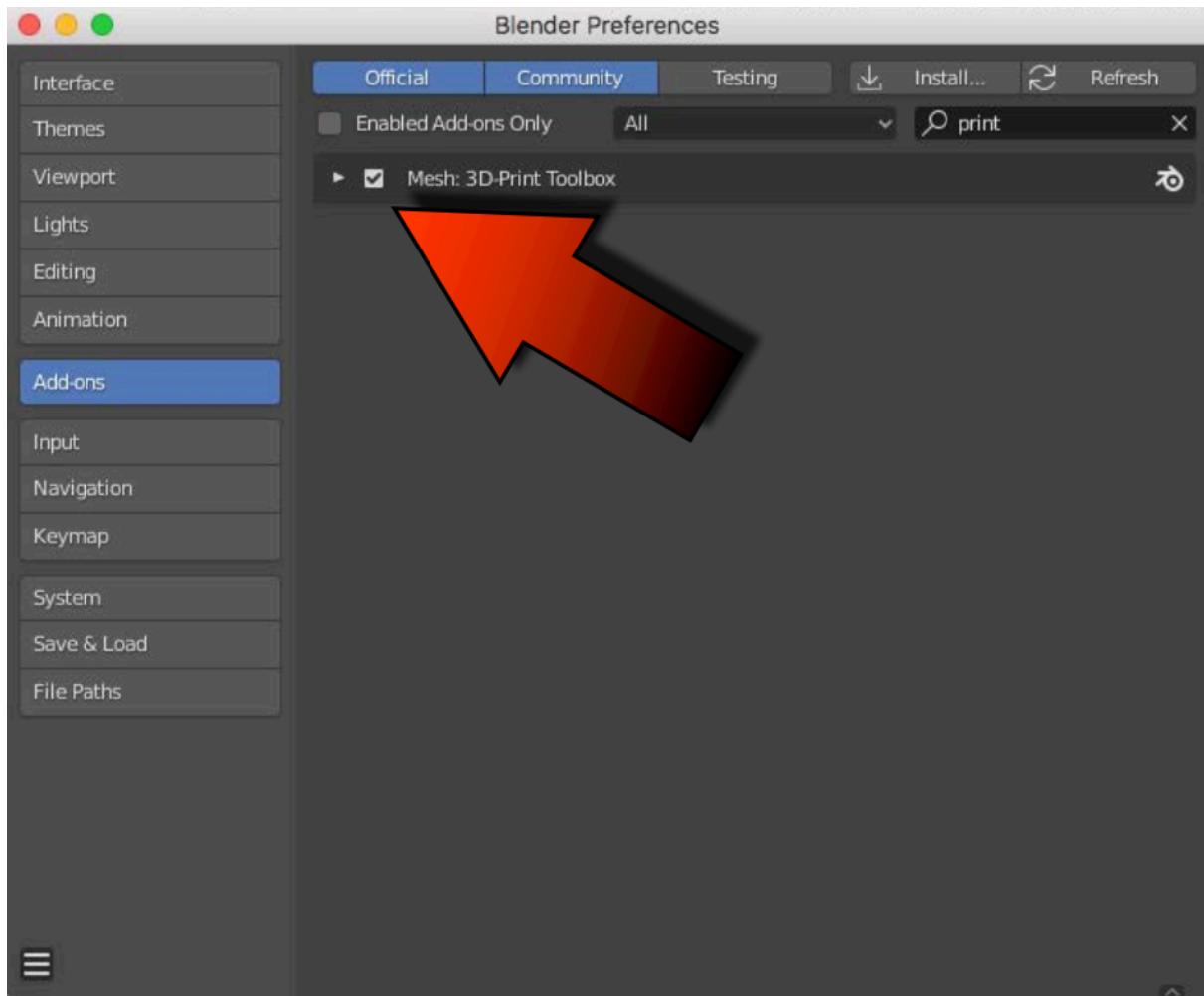
Enter
PRINT



CHESS PAWN

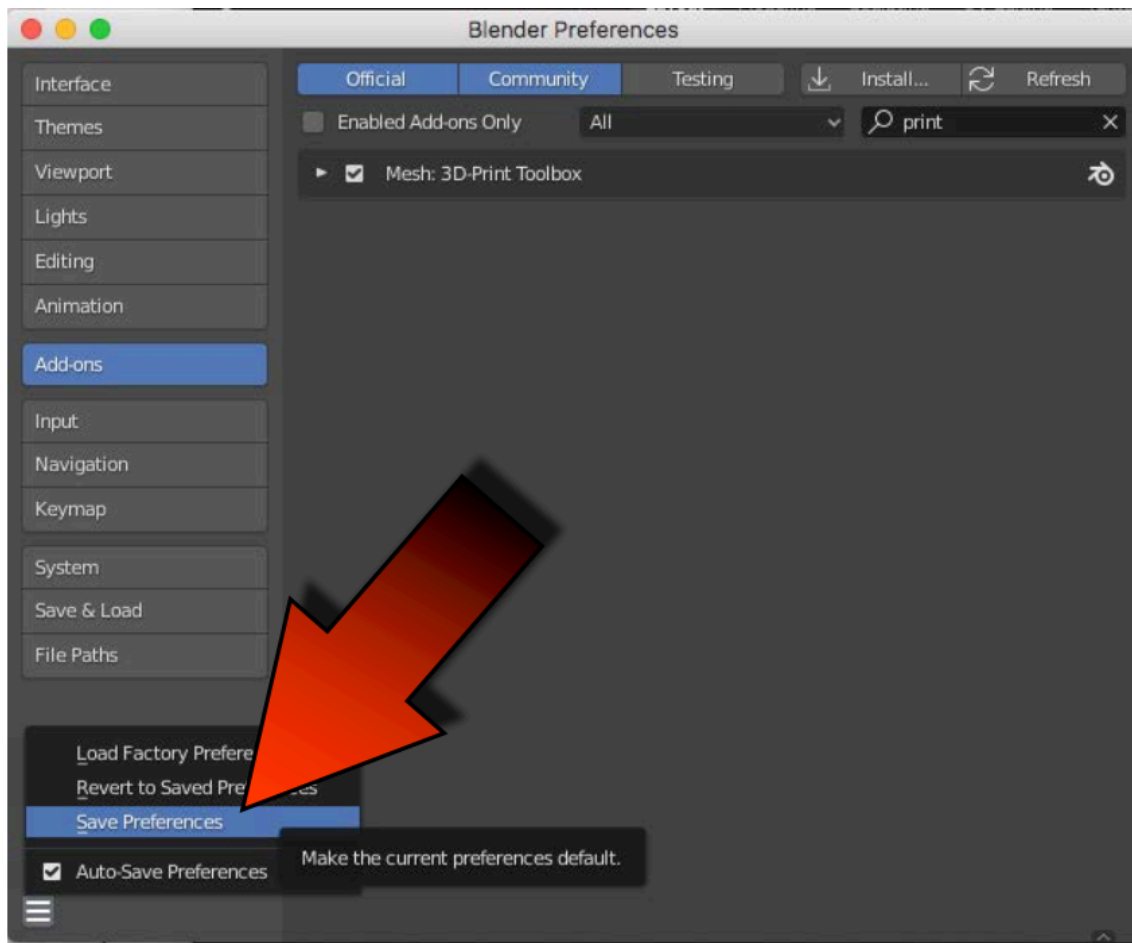
Mark

Mesh 3D-Print Toolbox



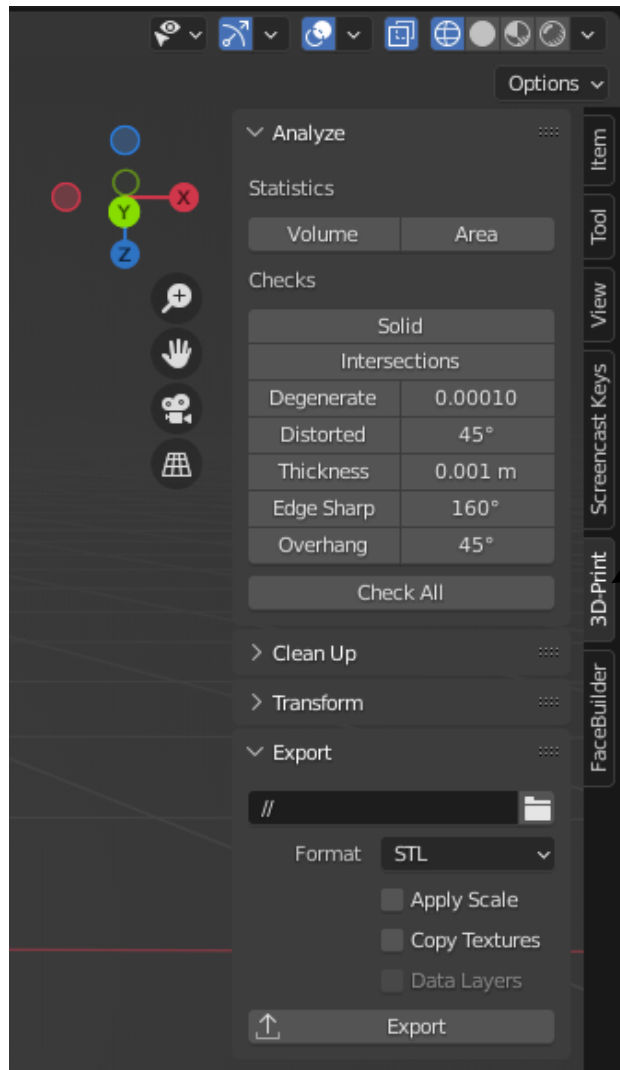
CHESS PAWN

**To save these settings permanently
click on the button on the lower left
and save it**



CHESS PAWN

If you press the **N** key in the 3D view,
you will see the **bookmarks window**



BLENDER



**THANK YOU
FOR YOUR
ATTENTION**

JACEK KAWAŁEK