Session 04

Youth Create:
Creating 3D Worlds (04)

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The Learning Space

CITY OF CANADA BAY LIBRARIES

Agenda

Practise Blender Skills

- Review hard surface modelling basic skills
- Create another furniture - ceiling fan

Project - New Topics

- 3D animation basic skills
- Animate the ceiling fan

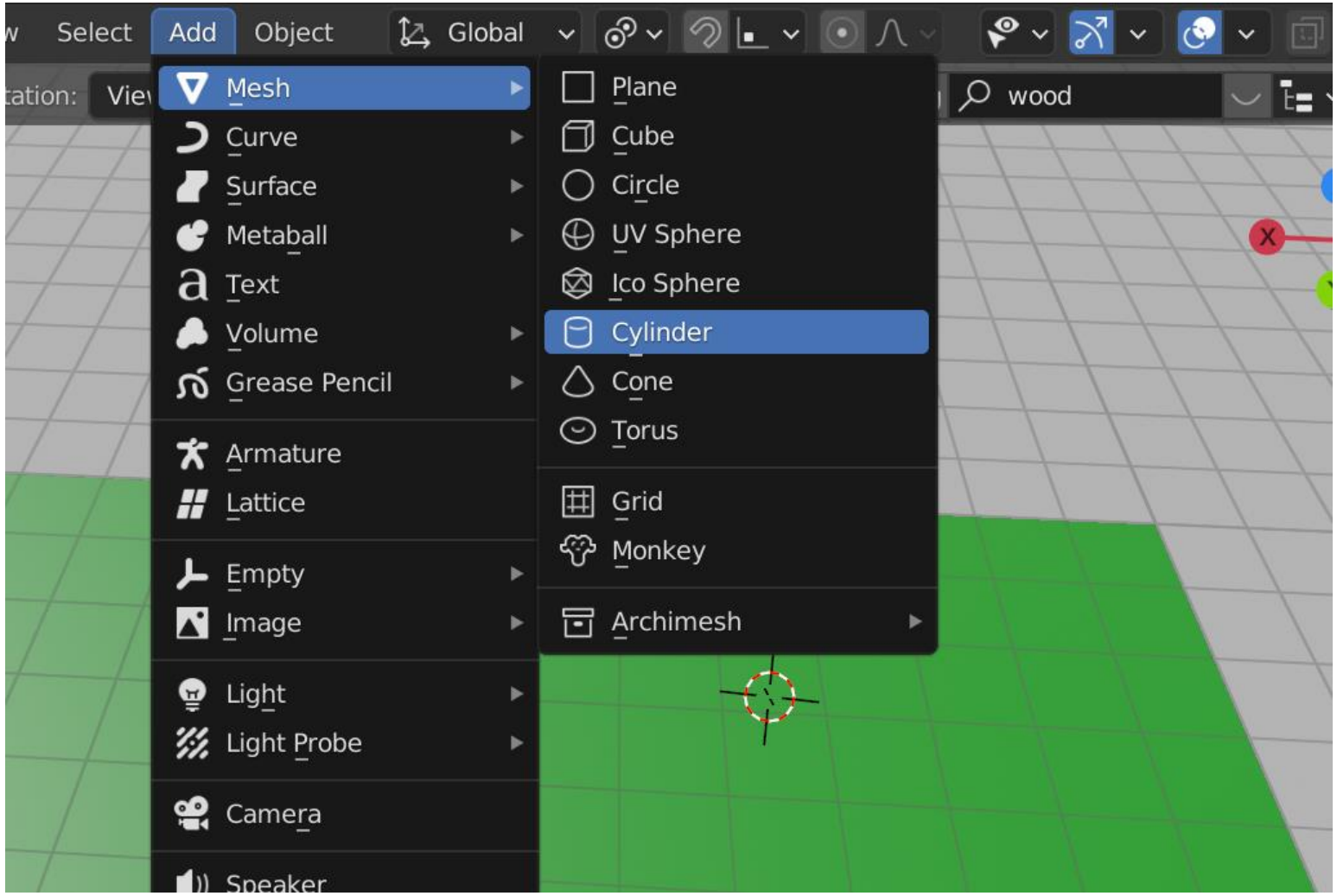
Learn to animate a 3D Object

Step 01:

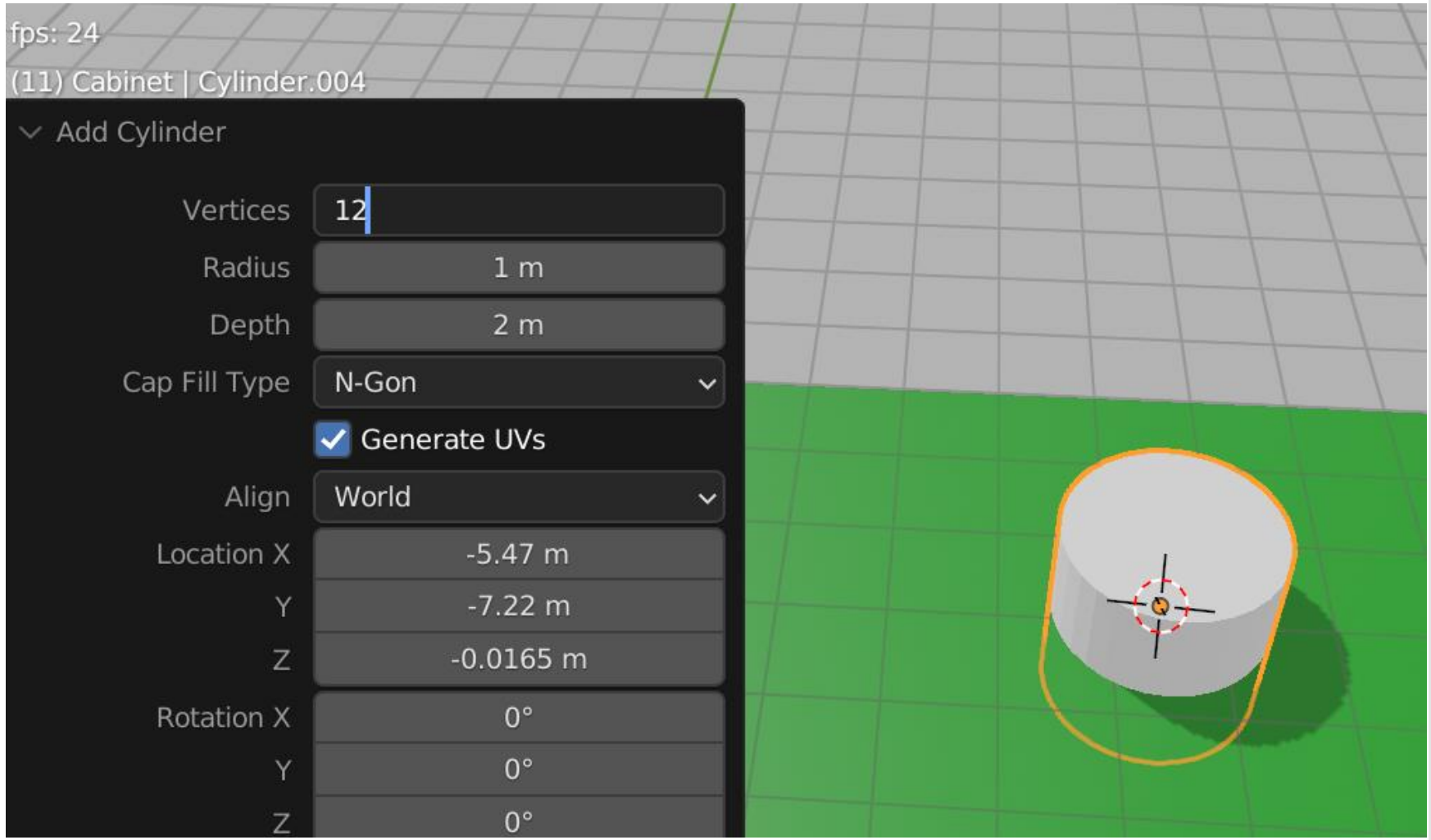
3D Model a Ceiling Fan

Let's start with a Cylinder

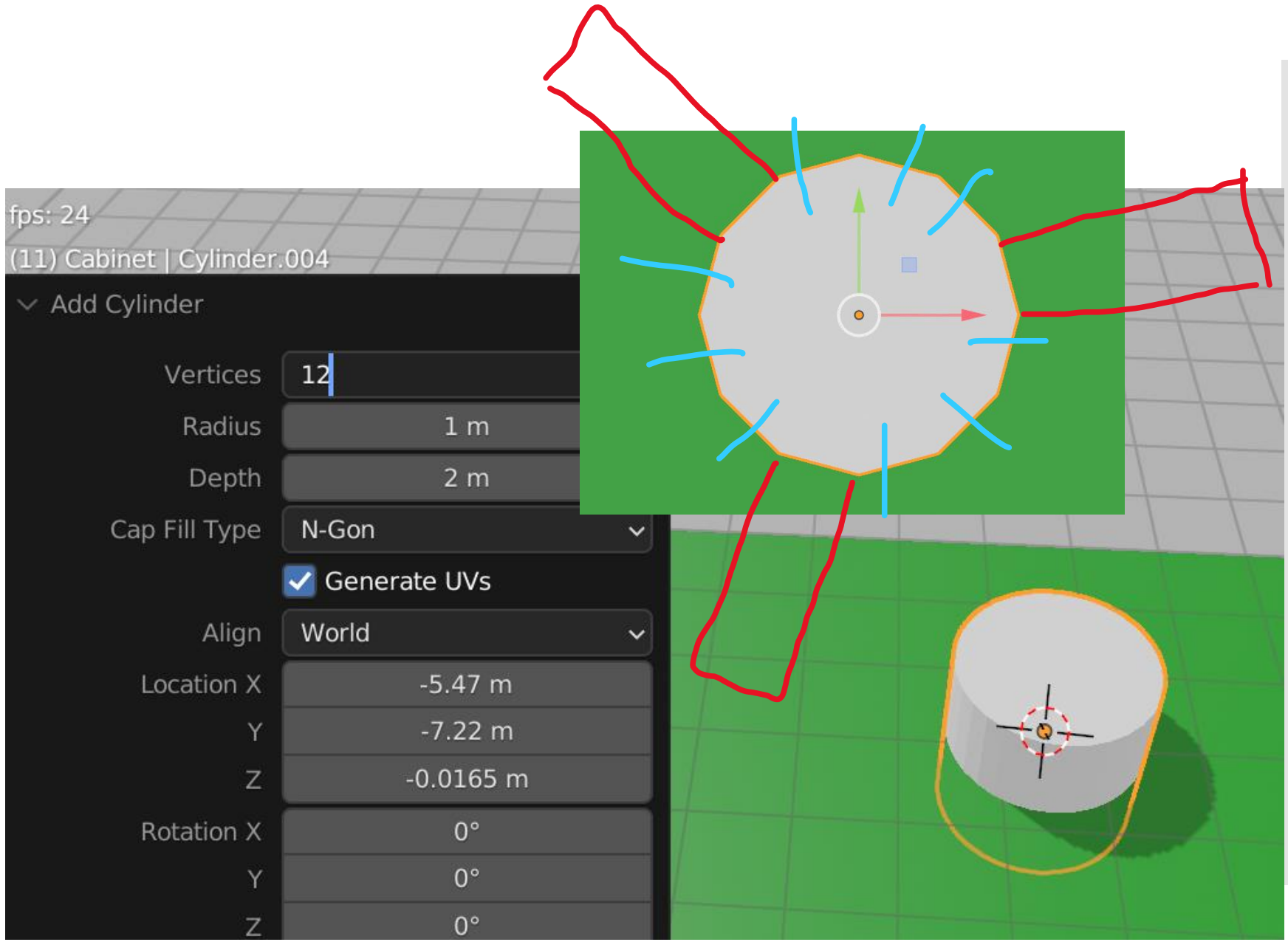
Shortcut:
Shift + 'A'



Reduce Vertices to 12

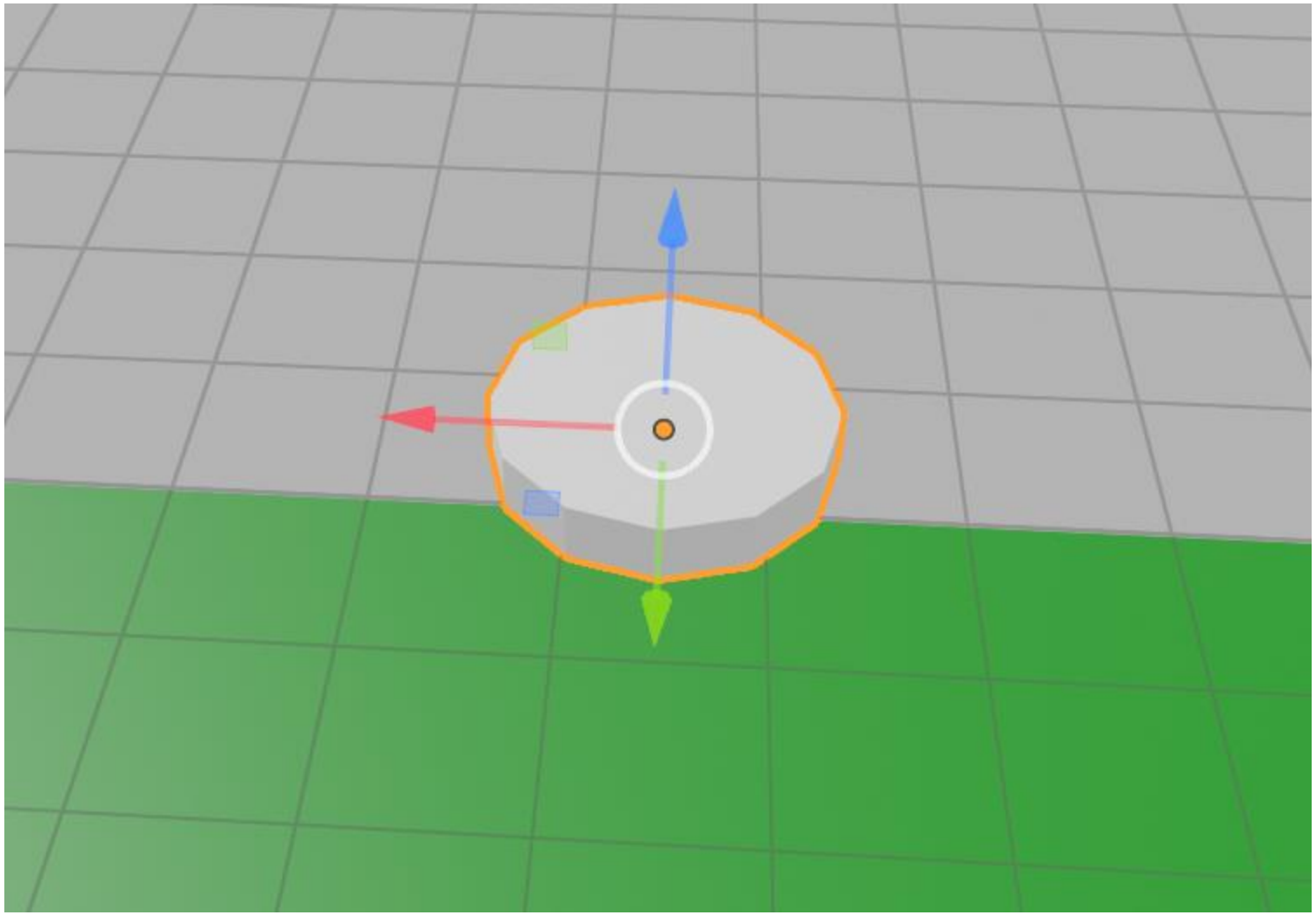


Reduce Vertices to 12 - Why?



Make the Cylinder into a fan base

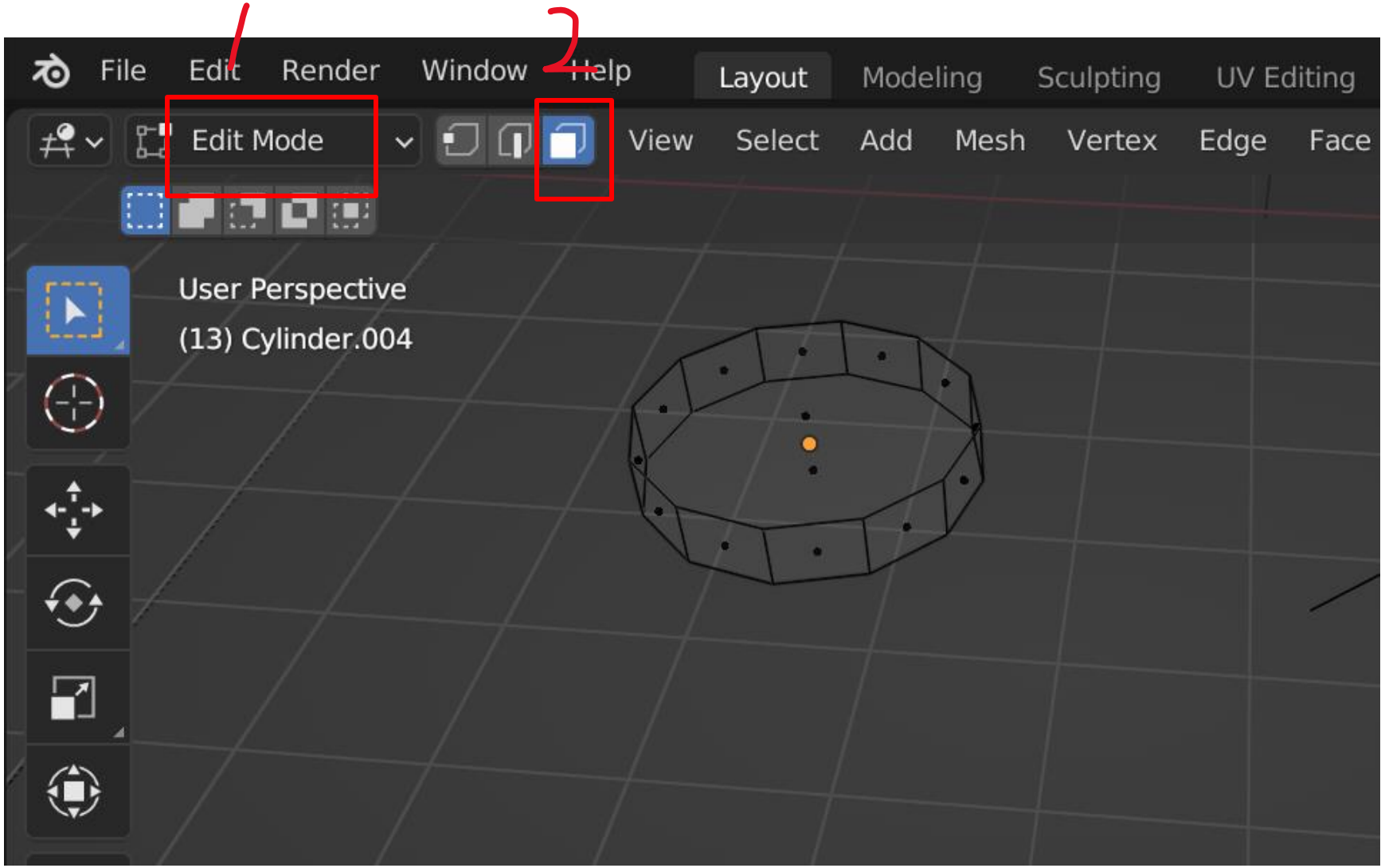
Shortcut:
'G' + 'Z' to move
'S' + 'Z' to scale



Review

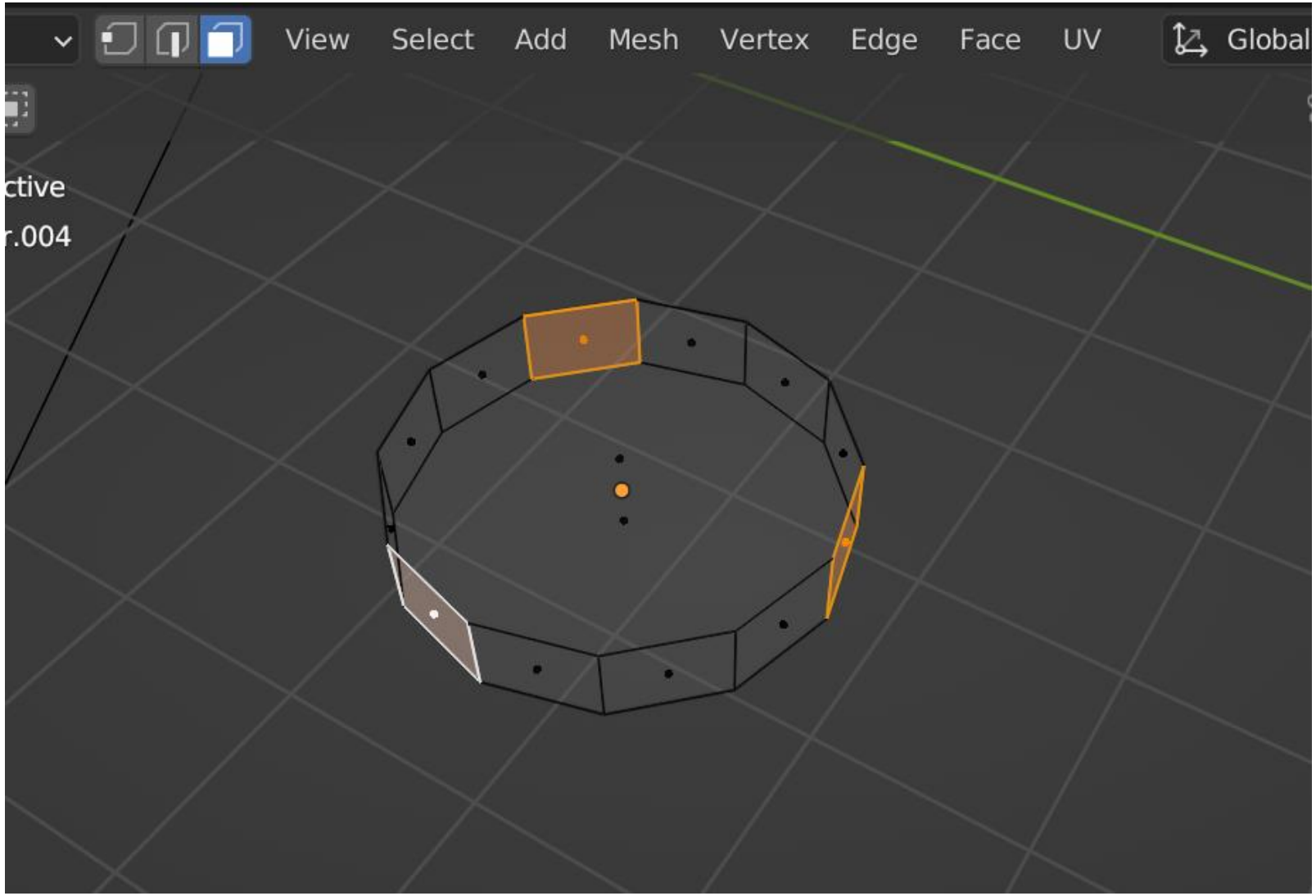
Switch to **Edit Mode** & then choose **Face**

Shortcut:
'Tab' key



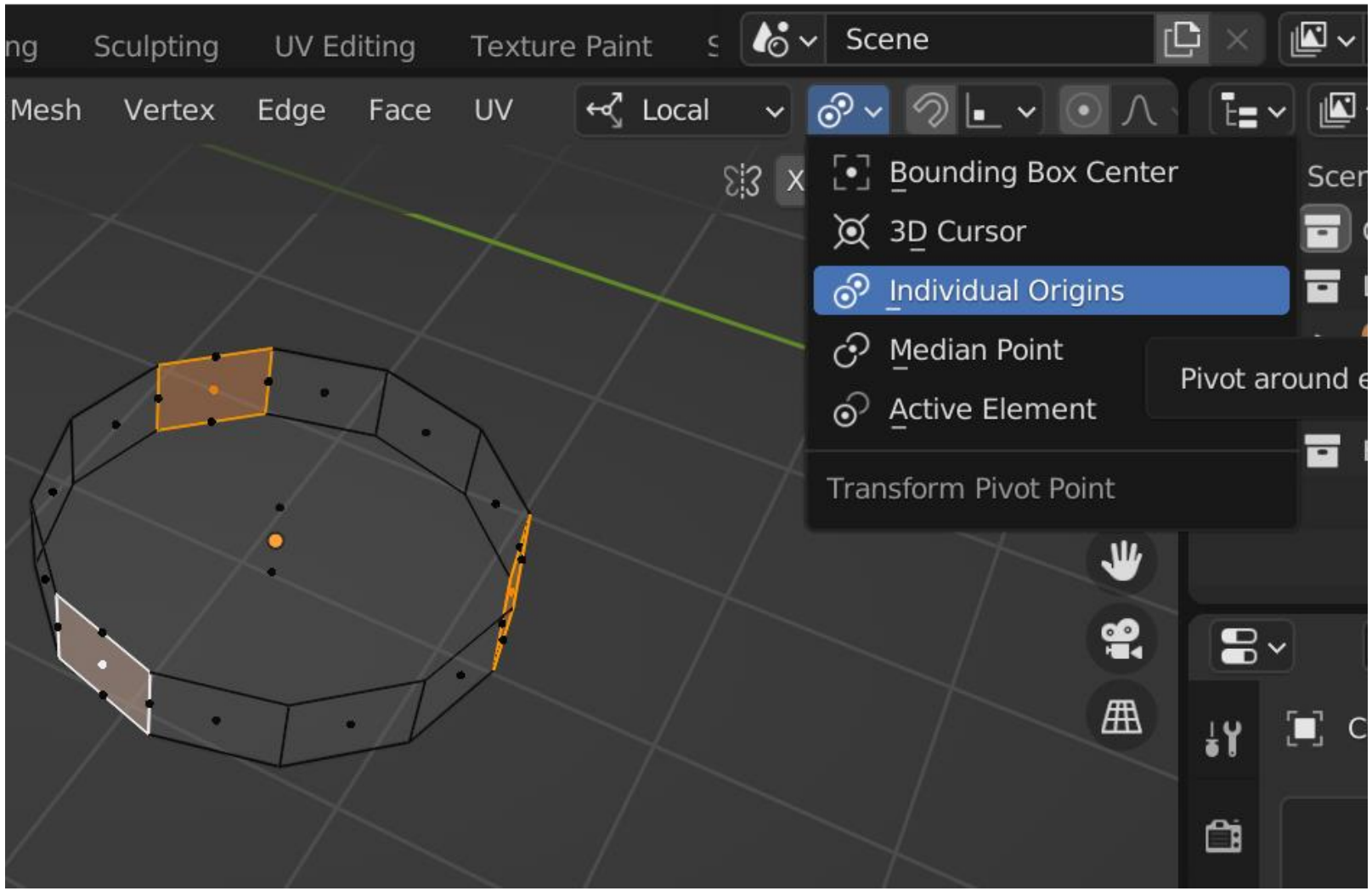
Now let's select & extrude the three faces

Multi-select by holding 'shift' key



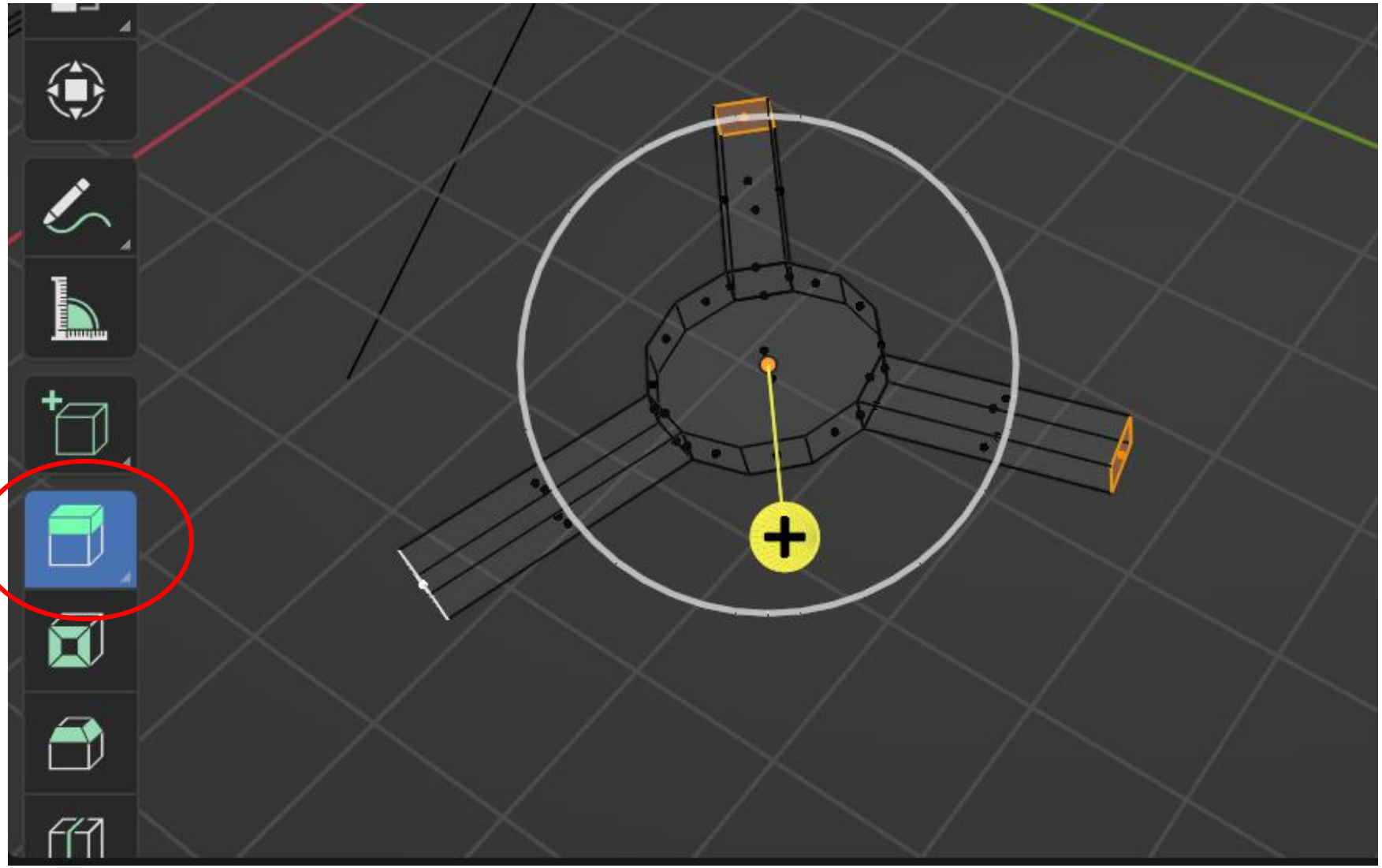
Set the 'Transform Pivot Point' for each face

Choose **'Individual Origins'**



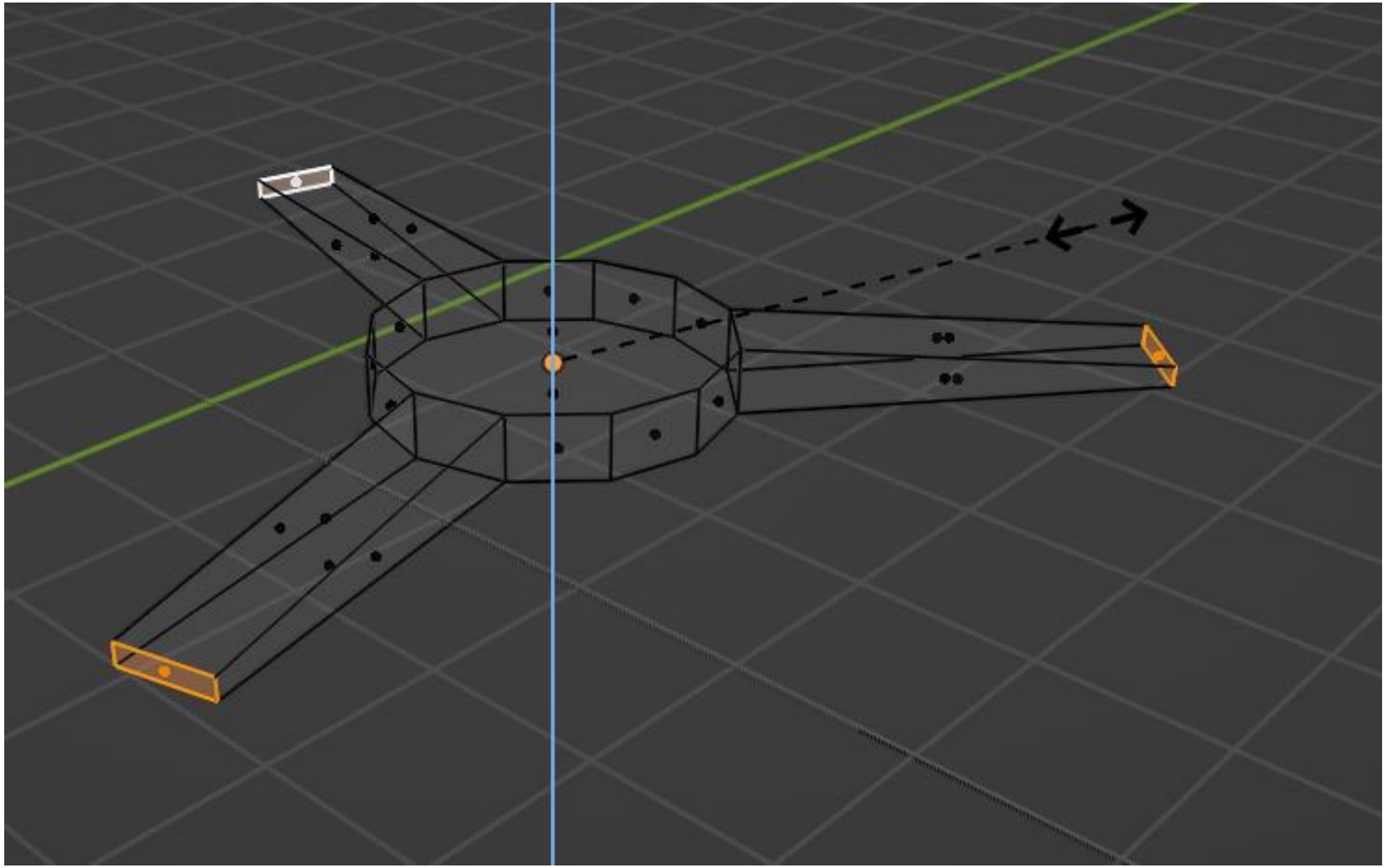
Extrude the faces

Shortcut:
'e' key



Adjust the fans tip, e.g., squeeze them along 'z' axis

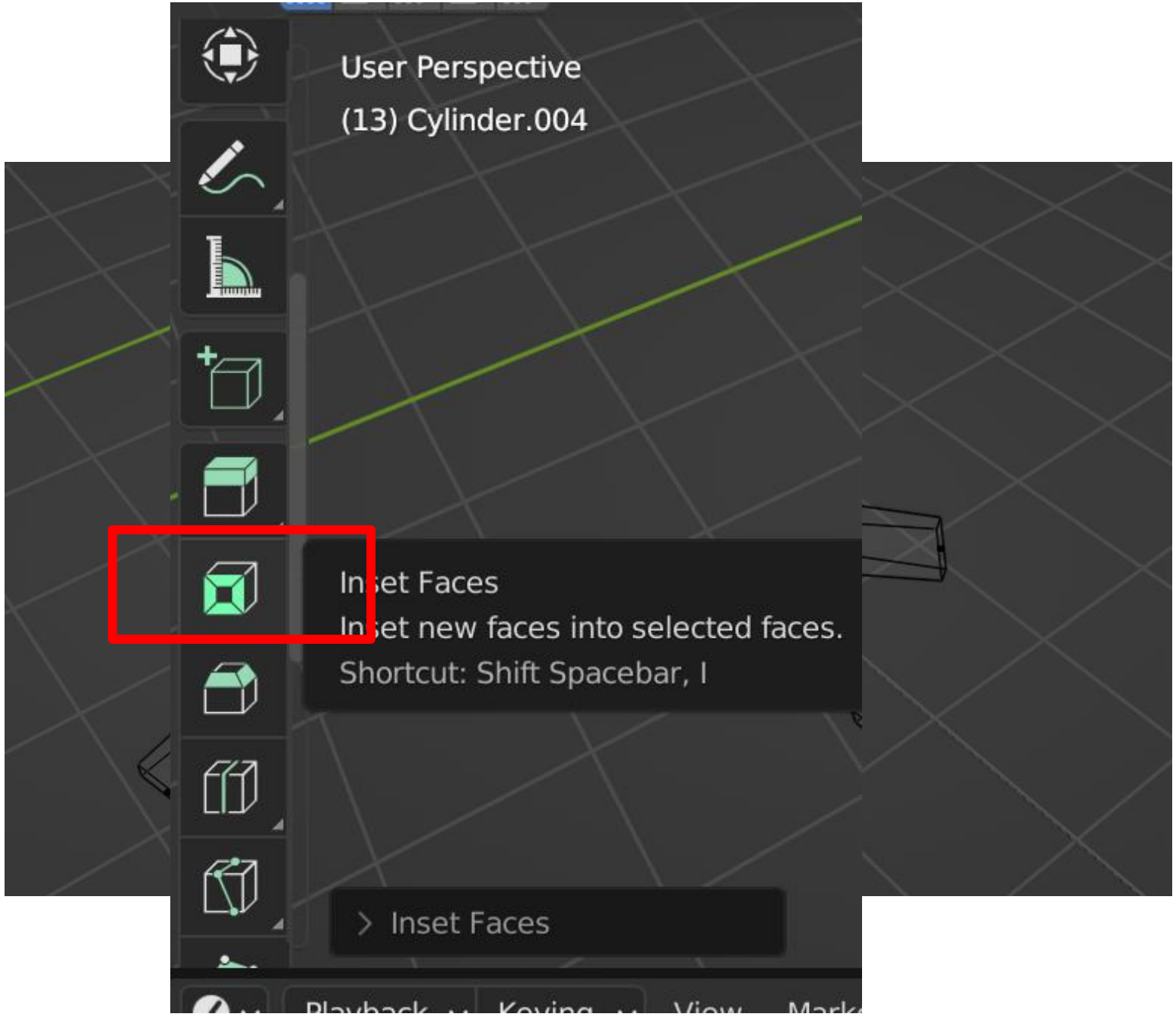
Shortcut:
's' then 'z' key



It's not just a cylinder … let's adjust the fan base further

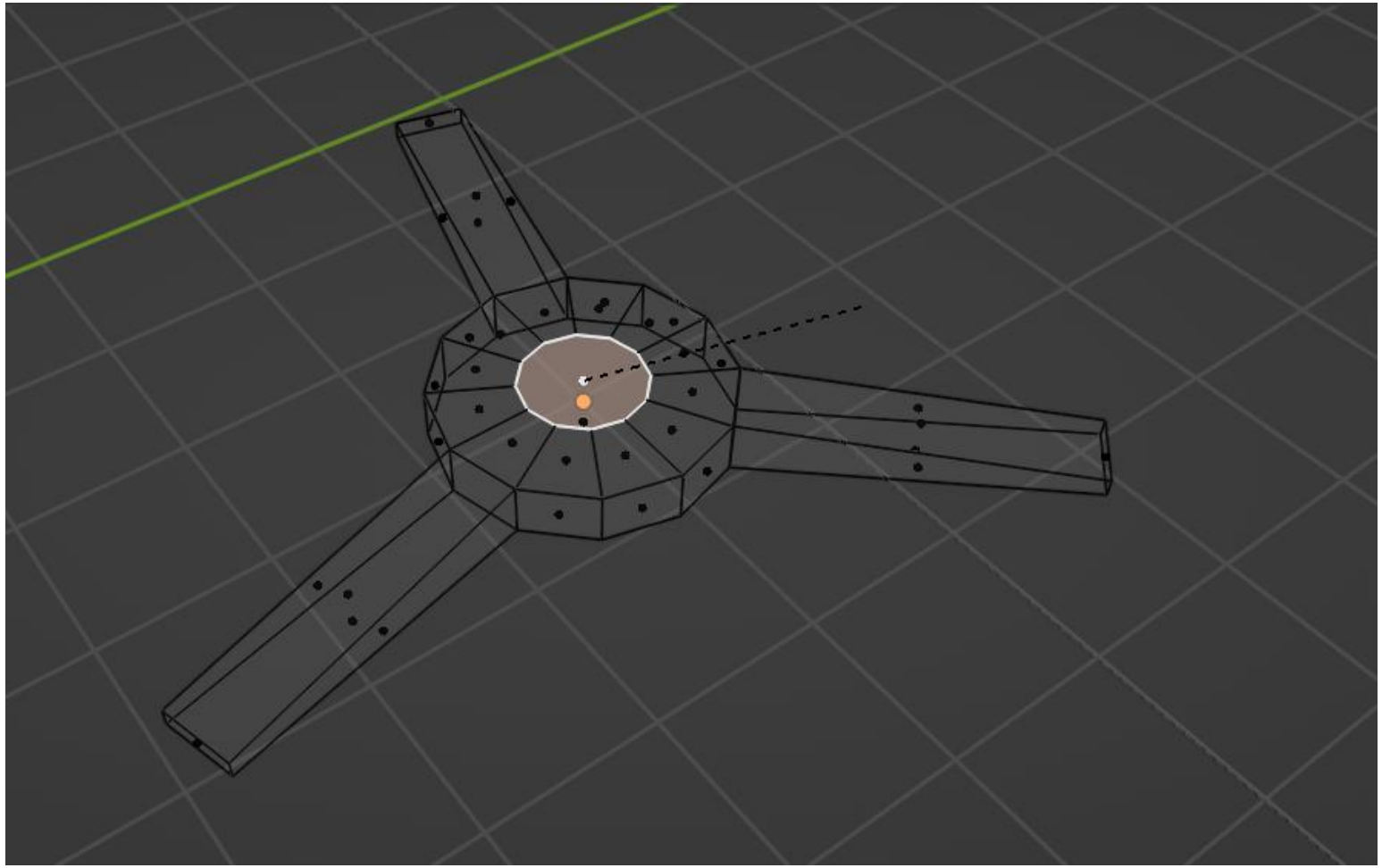
Let's see another Basic 3D modelling operator:
=> Inset

Shortcut:
'i' key



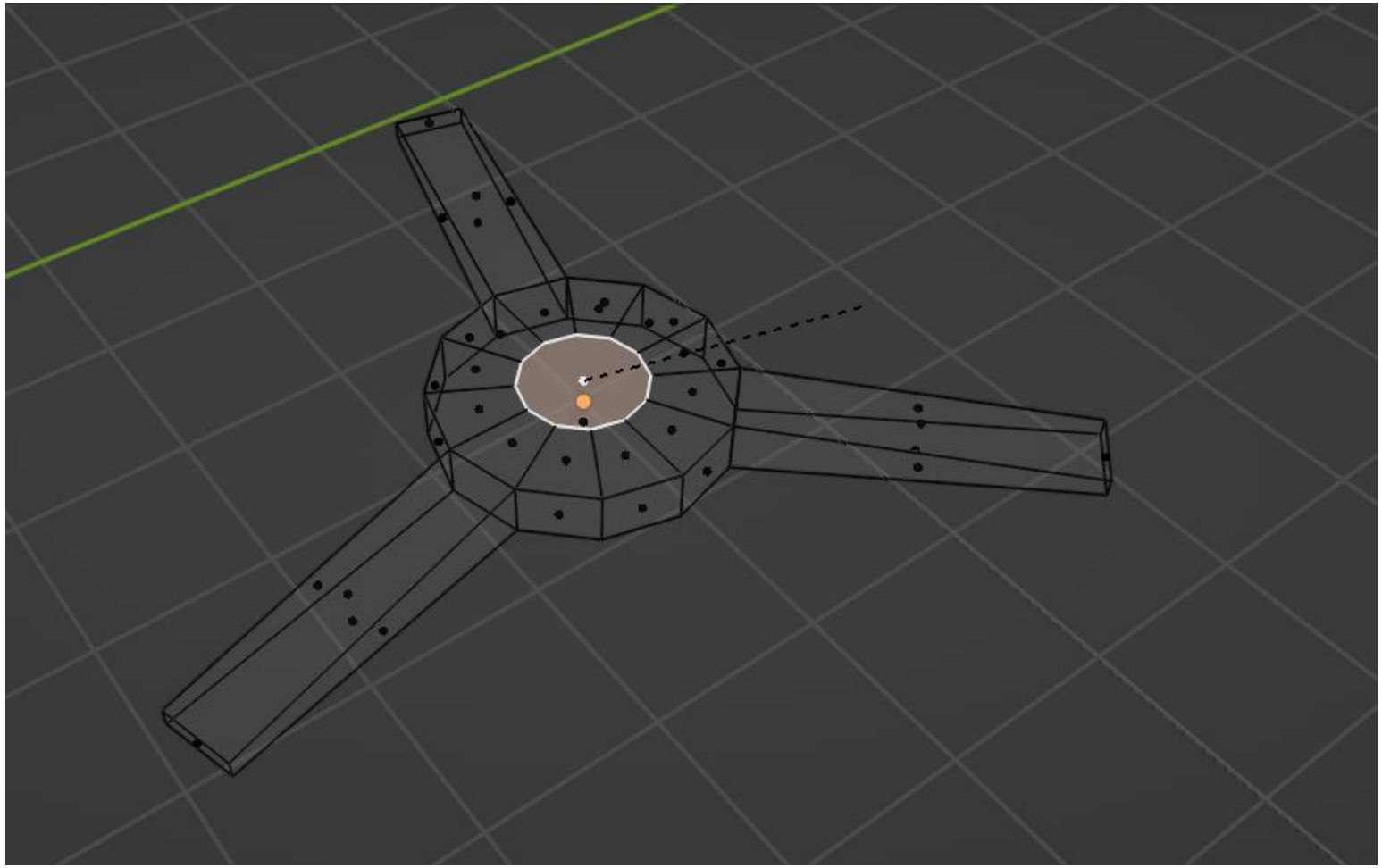
Let's see another Basic 3D modelling operator:
=> **Insert**

Shortcut:
'i' key



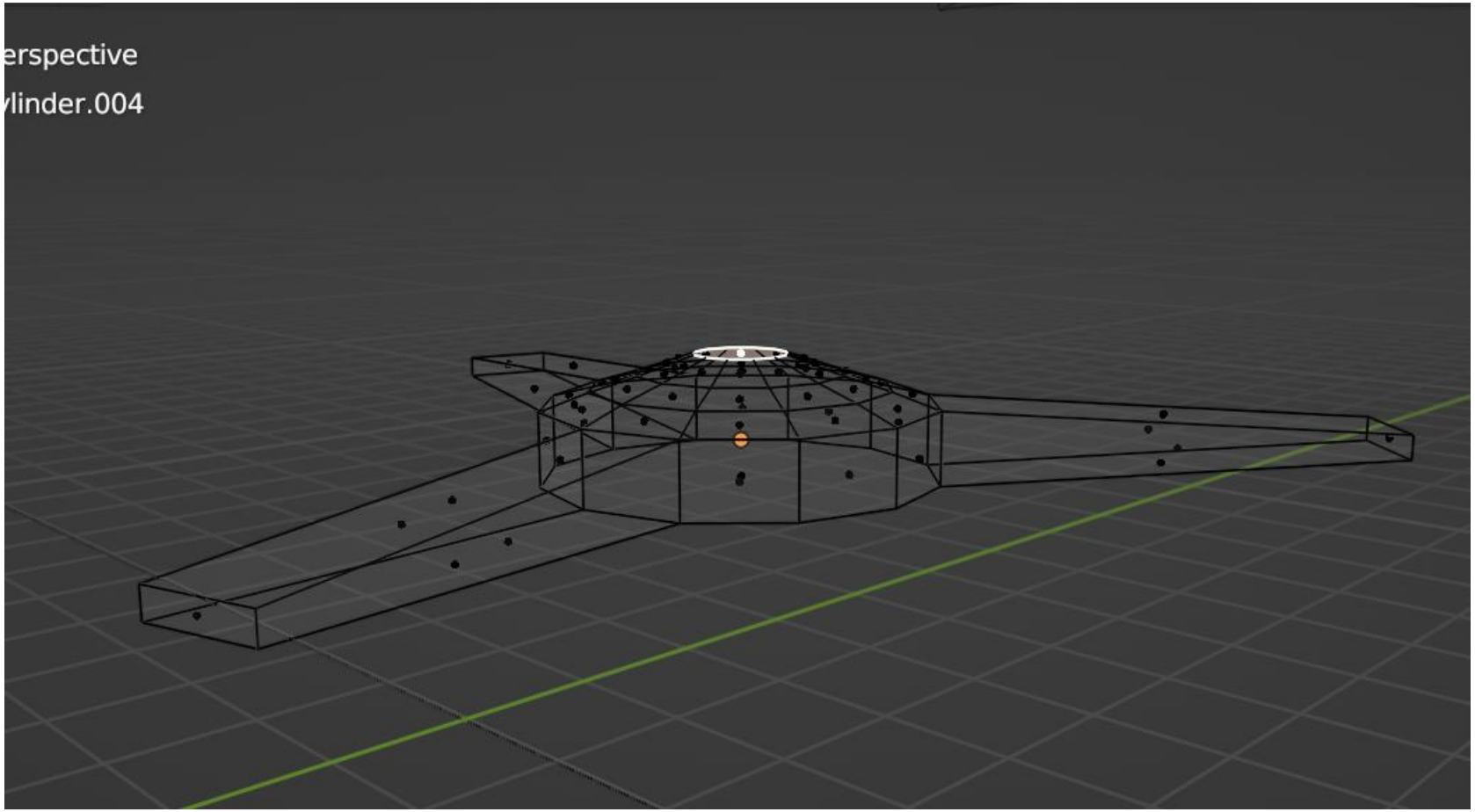
Now move this face up a bit

Shortcut:
'g' then 'z' key
move up

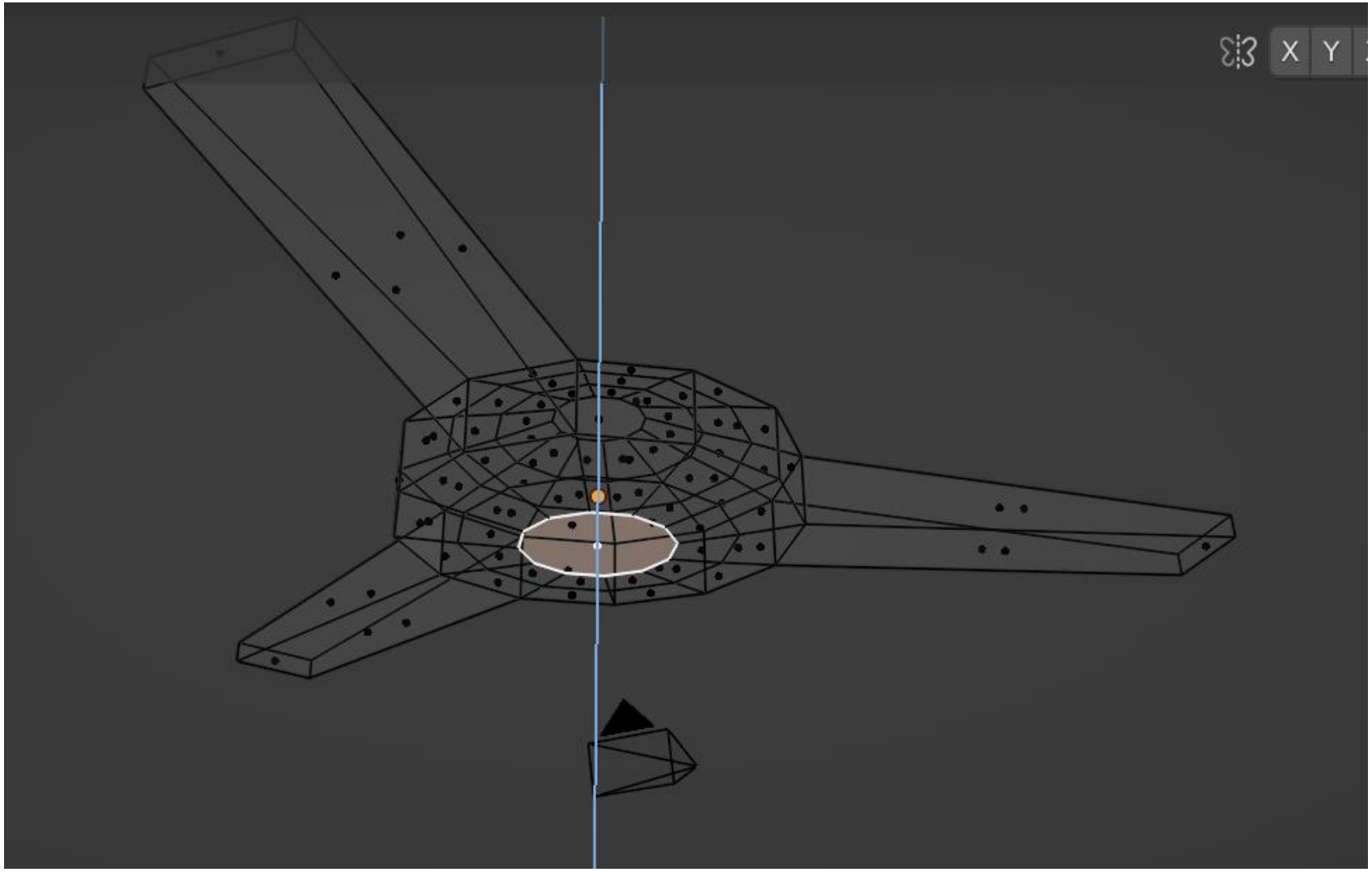


Let's repeat these two steps to reshape the base

Insert => Move up => Insert => Move up ...

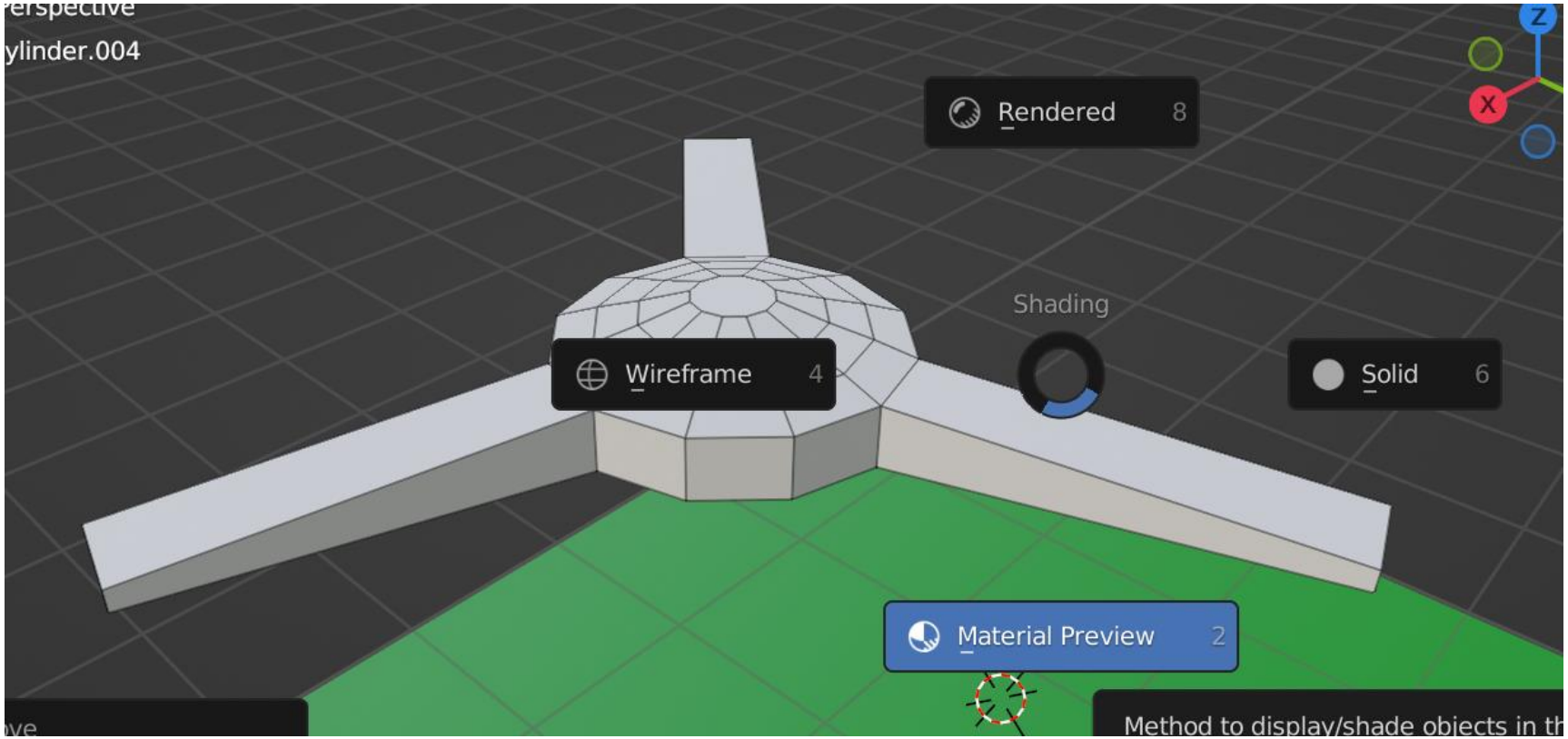


You can do the same for the bottom face



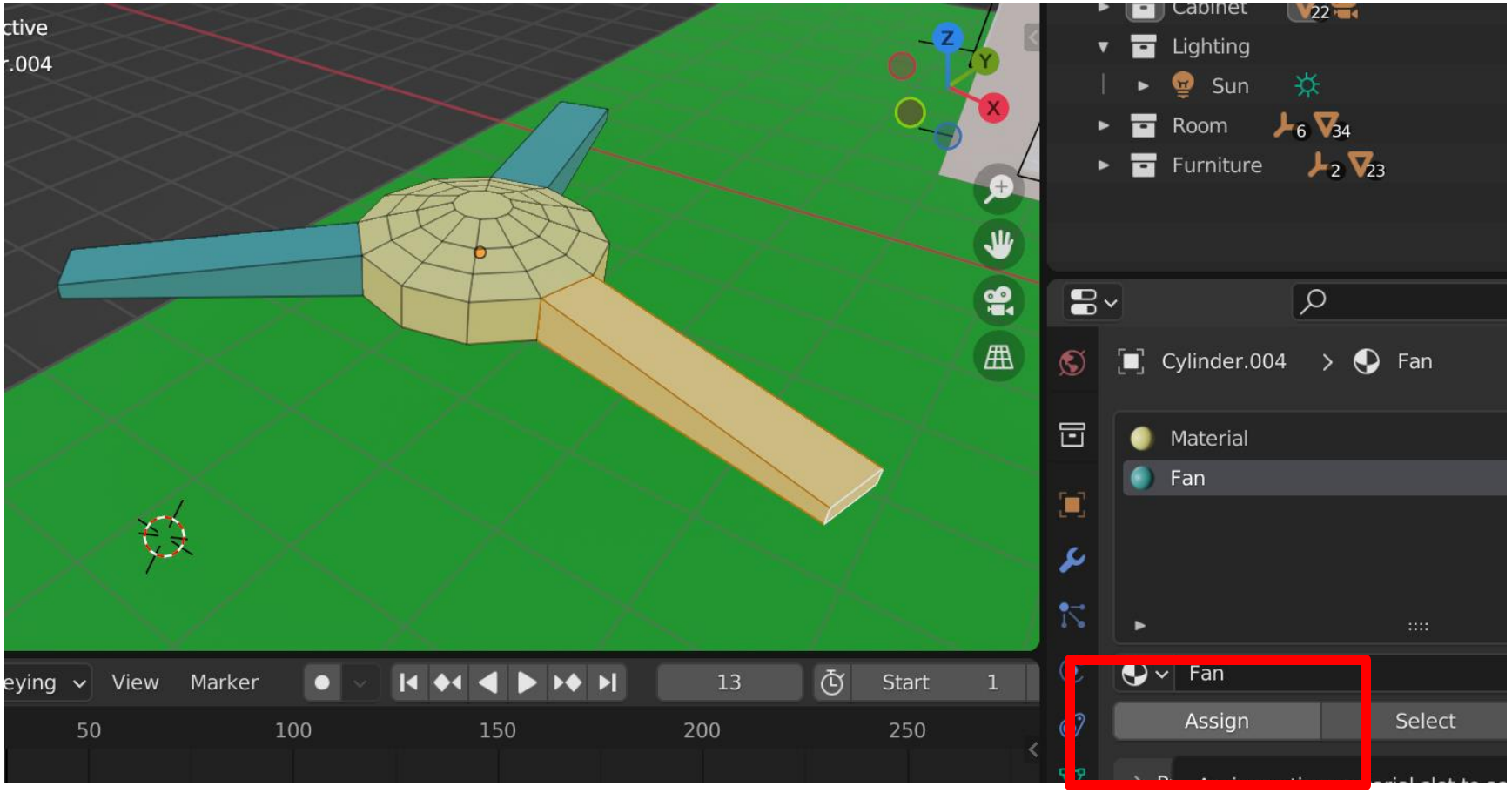
Review exercise

Now let's add some materials to the fan



Exercise

Can you make 2 different materials for the base and blades?



Step 02:

Key-frame animation in Blender

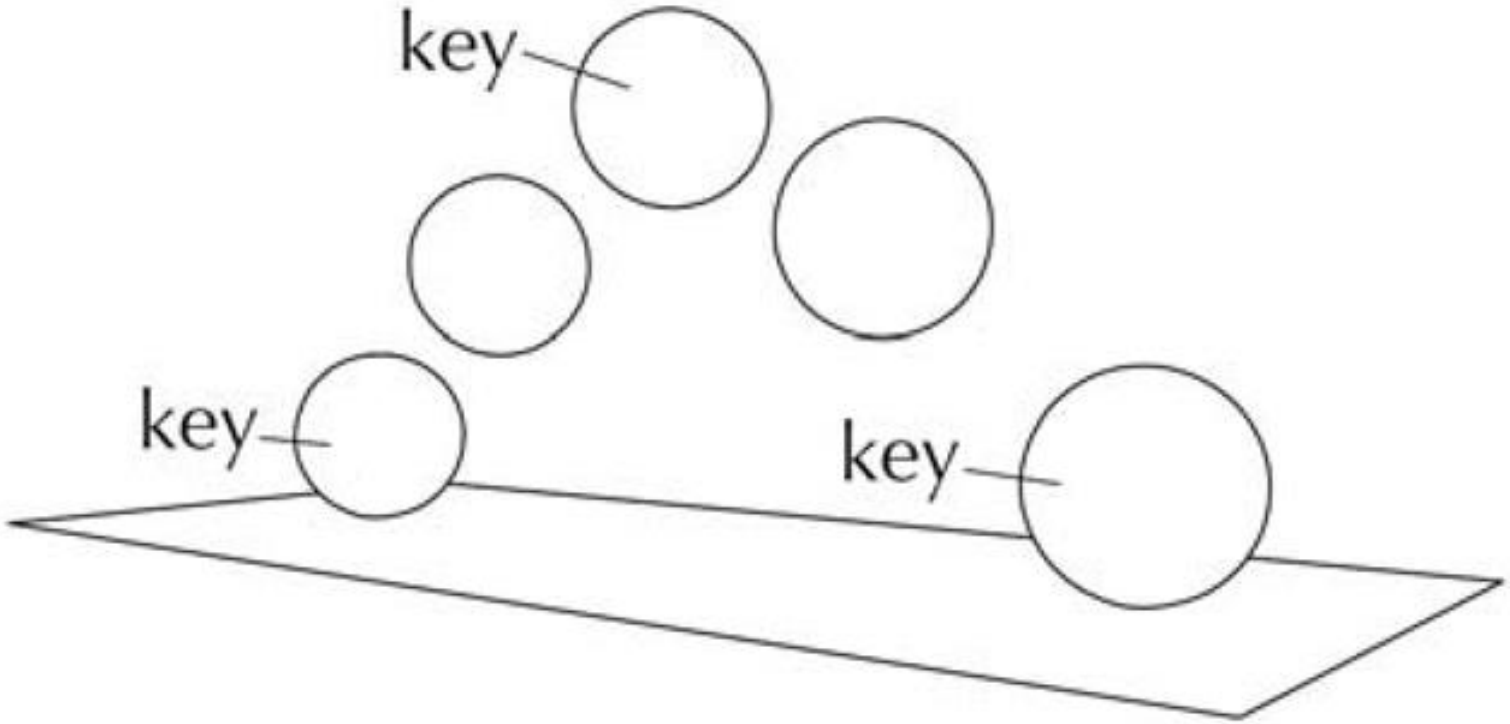
Now let's animate it

.....

Wait, how about the extension rod?

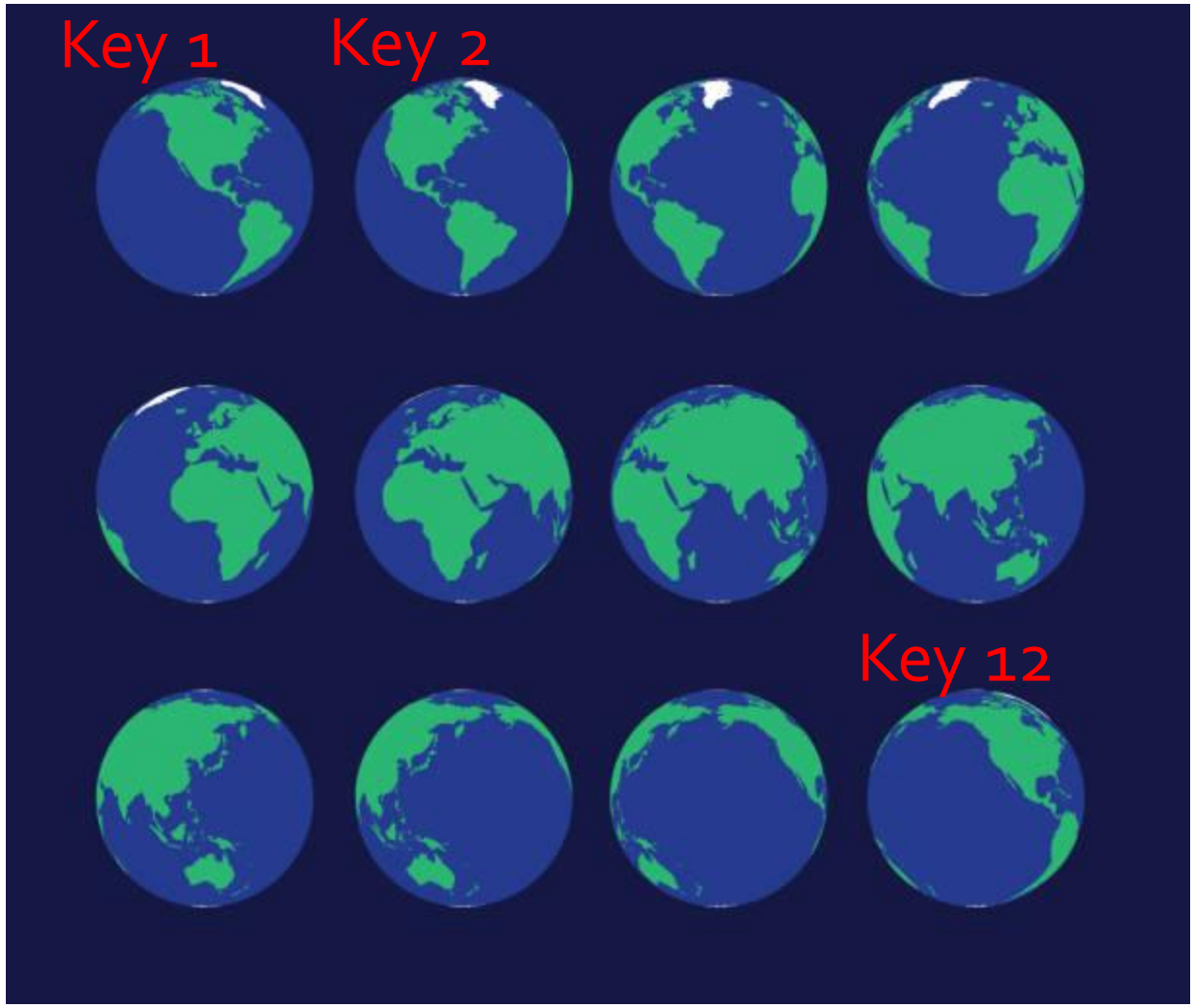
Example 01

How it works - put keys on an object's positions



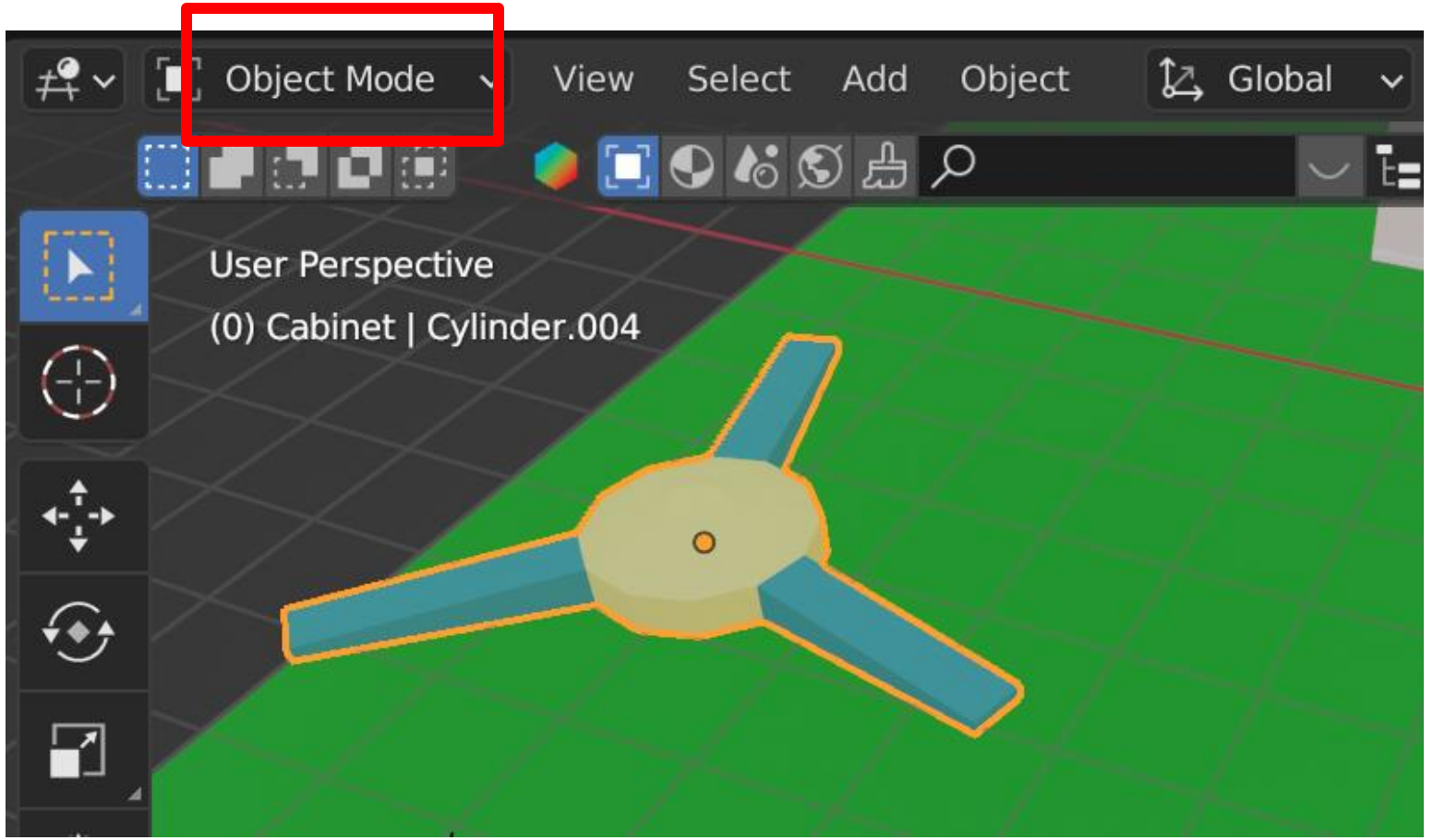
Example 02

Put keys on an object's rotation (e.g., degree)



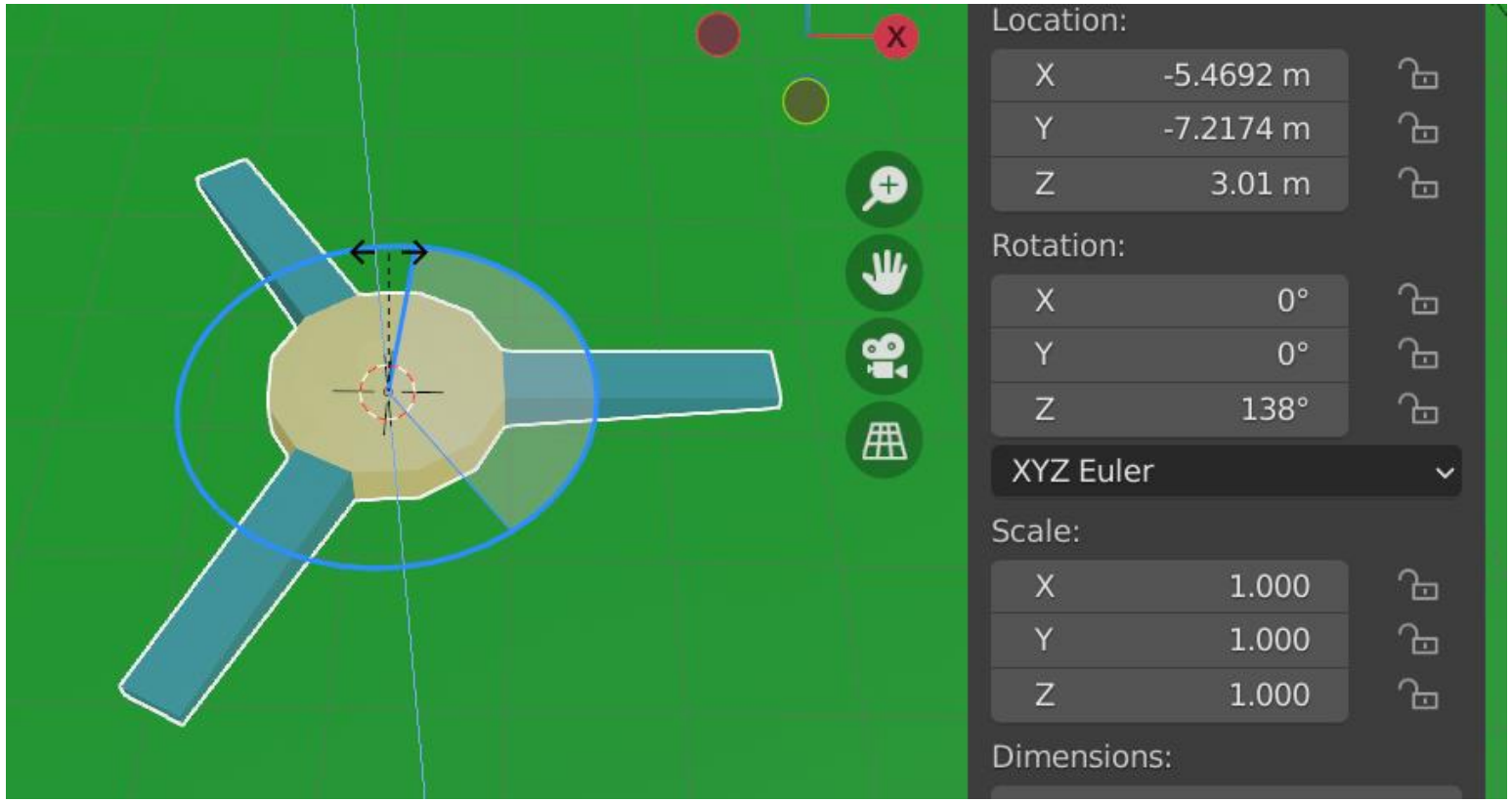
Let's animate the whole object => back to Object Mode

Shortcut:
'tab' key



Step 01

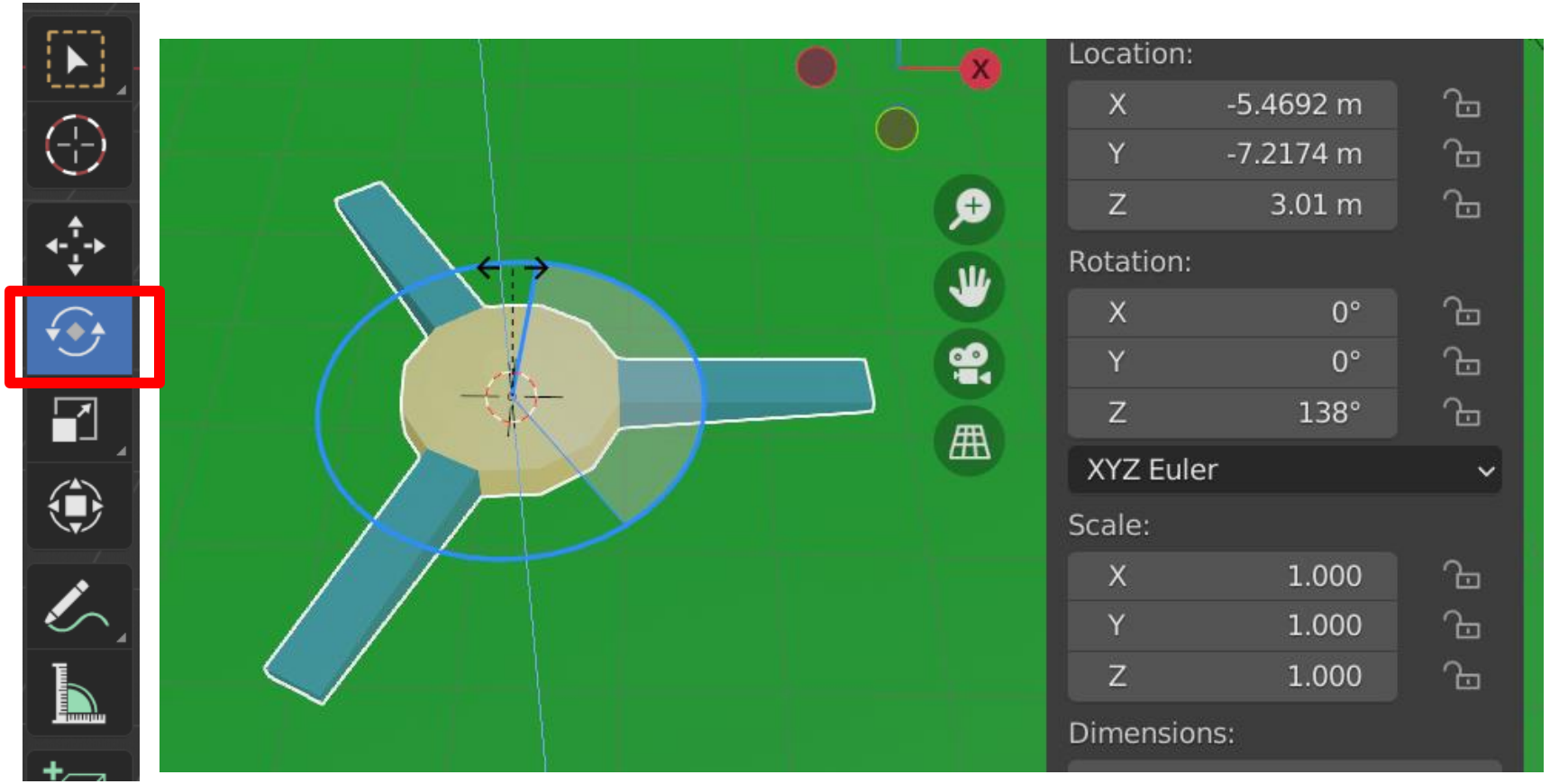
Review: how to manually rotation it along 'Z' axis?



Step 01

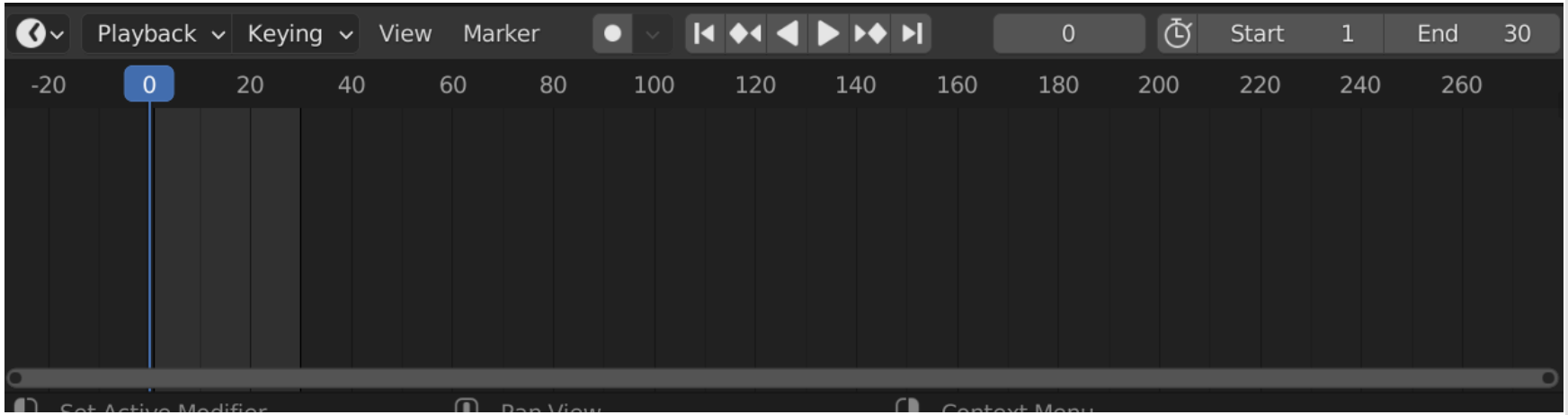
How to manually rotation it along 'Z' axis?

Shortcut:
'r' then 'z' key



Step 02

Work with the timeline



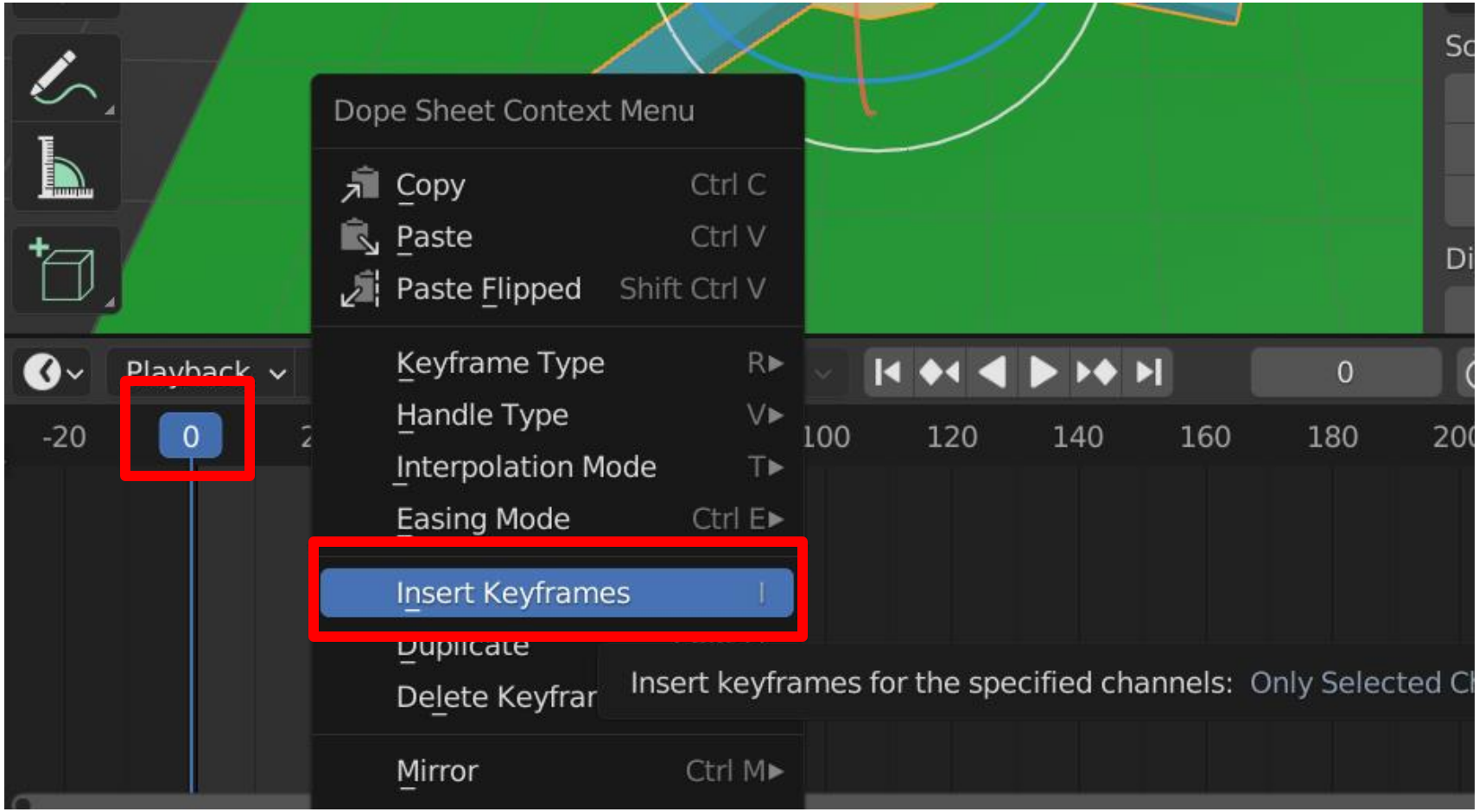
Step 02

Work with the timeline

Decide the duration – End frame number, e.g., set to **60** frames

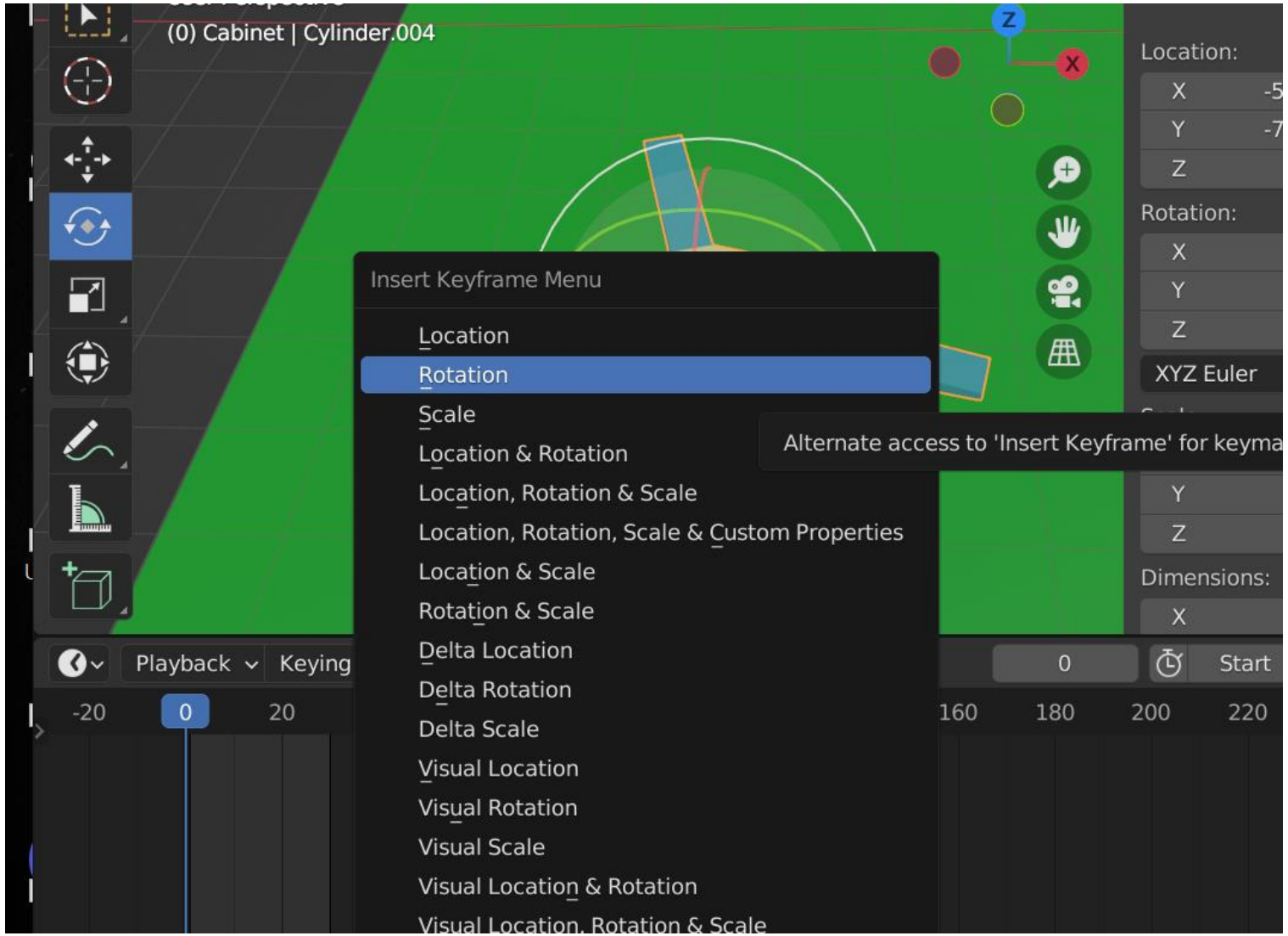
Step 02

Add a key for the Start Rotation i.e., 'o' degree at the 'o' frame with 'I' key



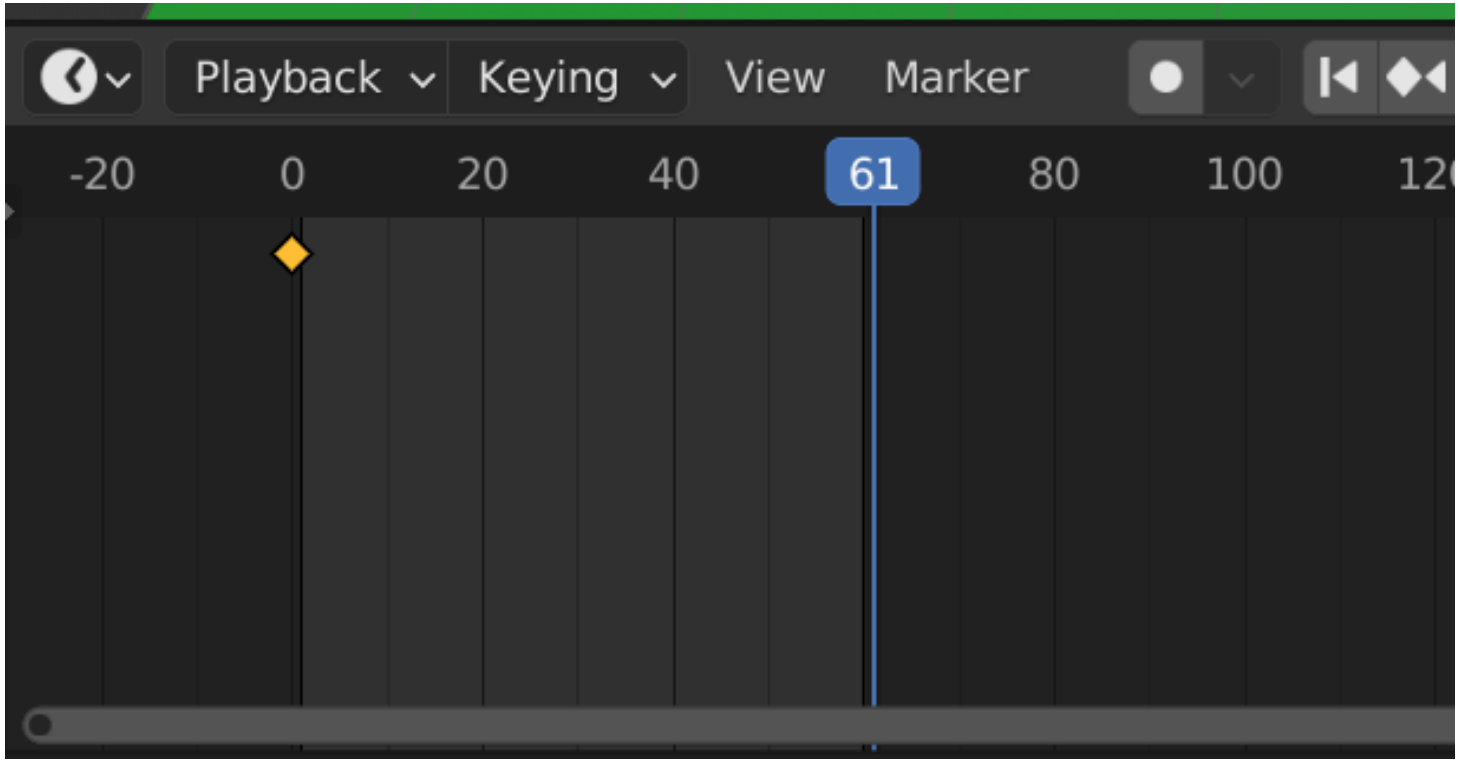
Step 02

Select the object & press 'I' key to insert a key with 'Rotation'



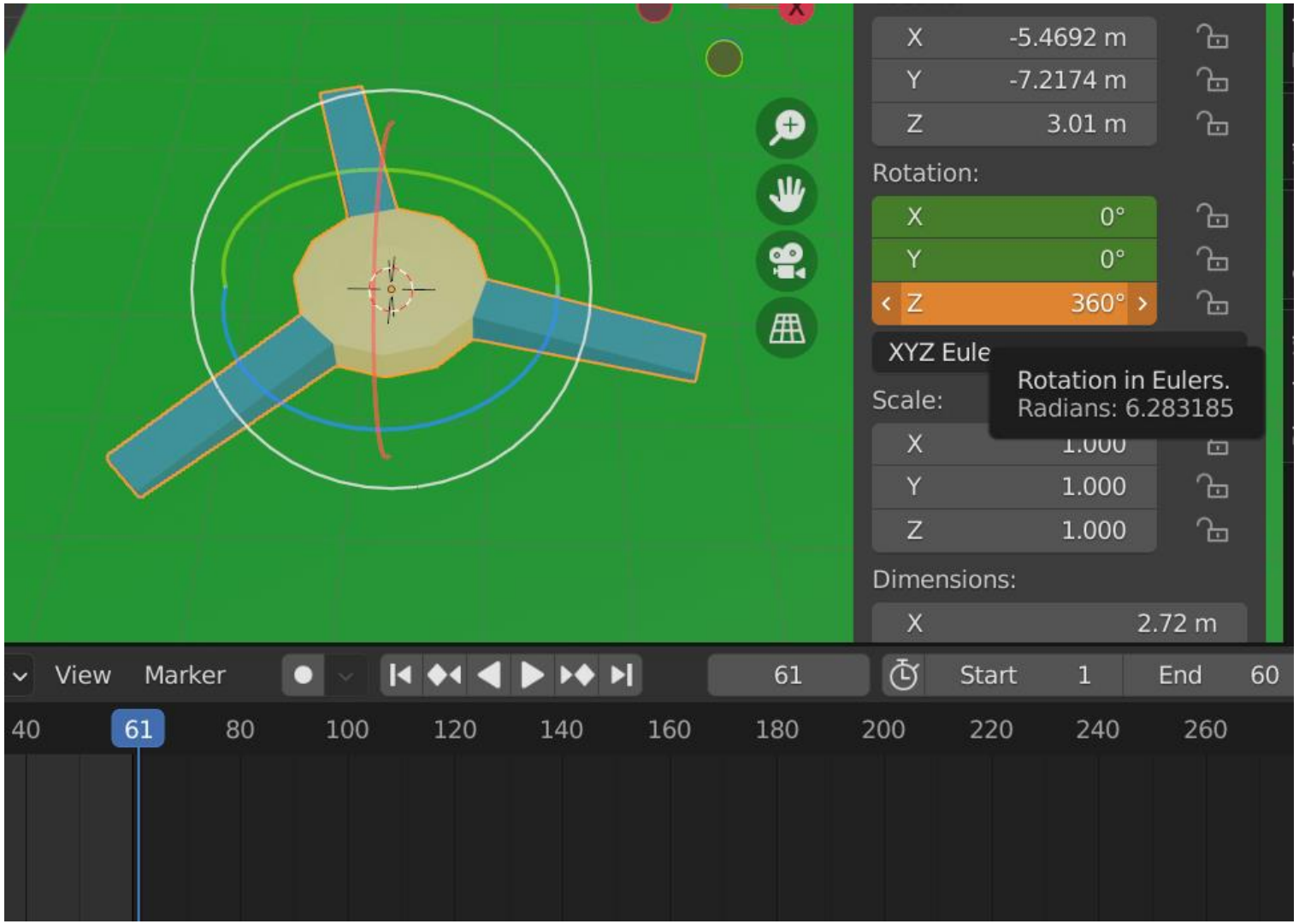
Step 02

Move the Timeline Handle to the end e.g., '61', to add another key



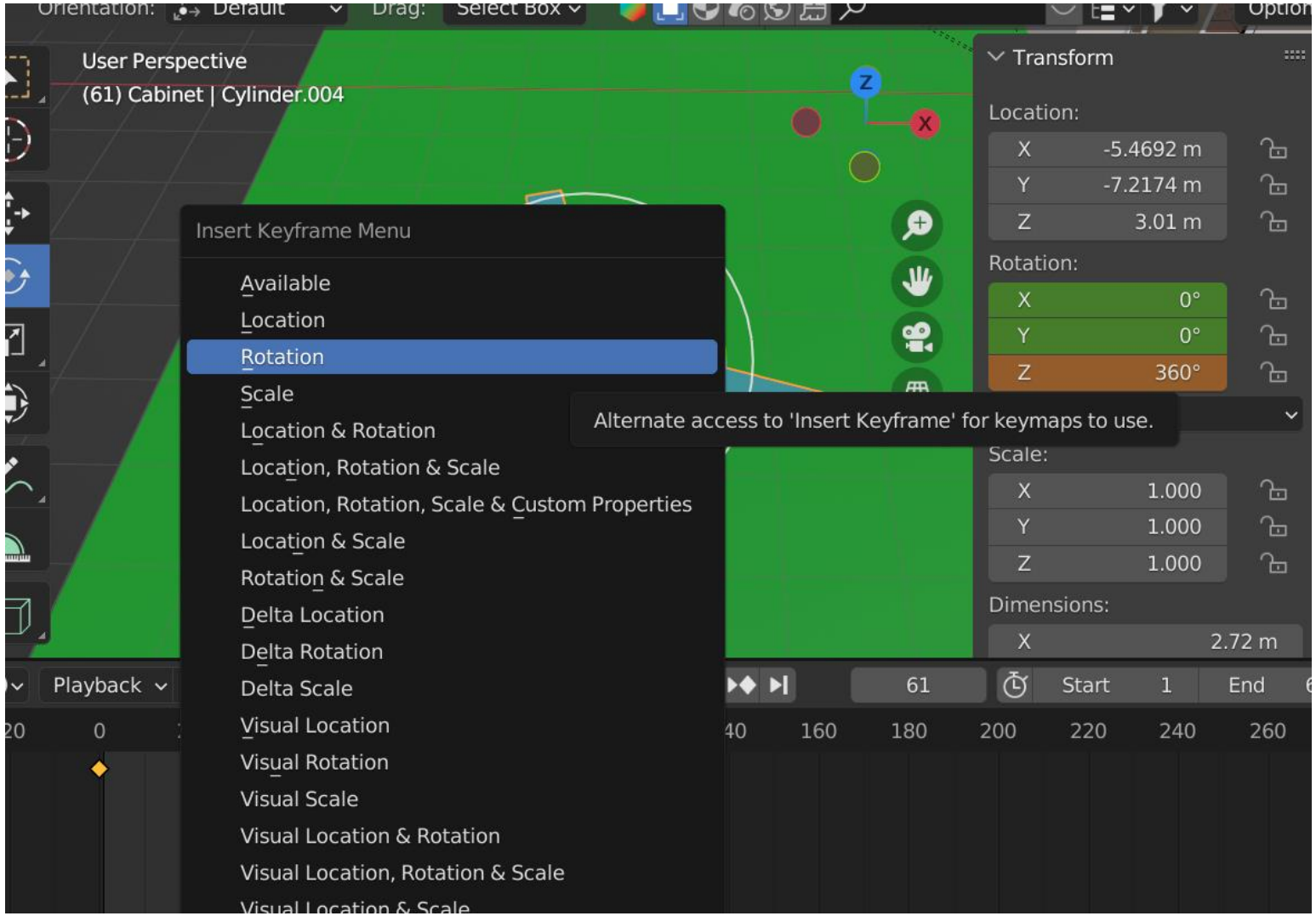
Step 02

Change the Rotation along 'Z' to '360' degree



Step 02

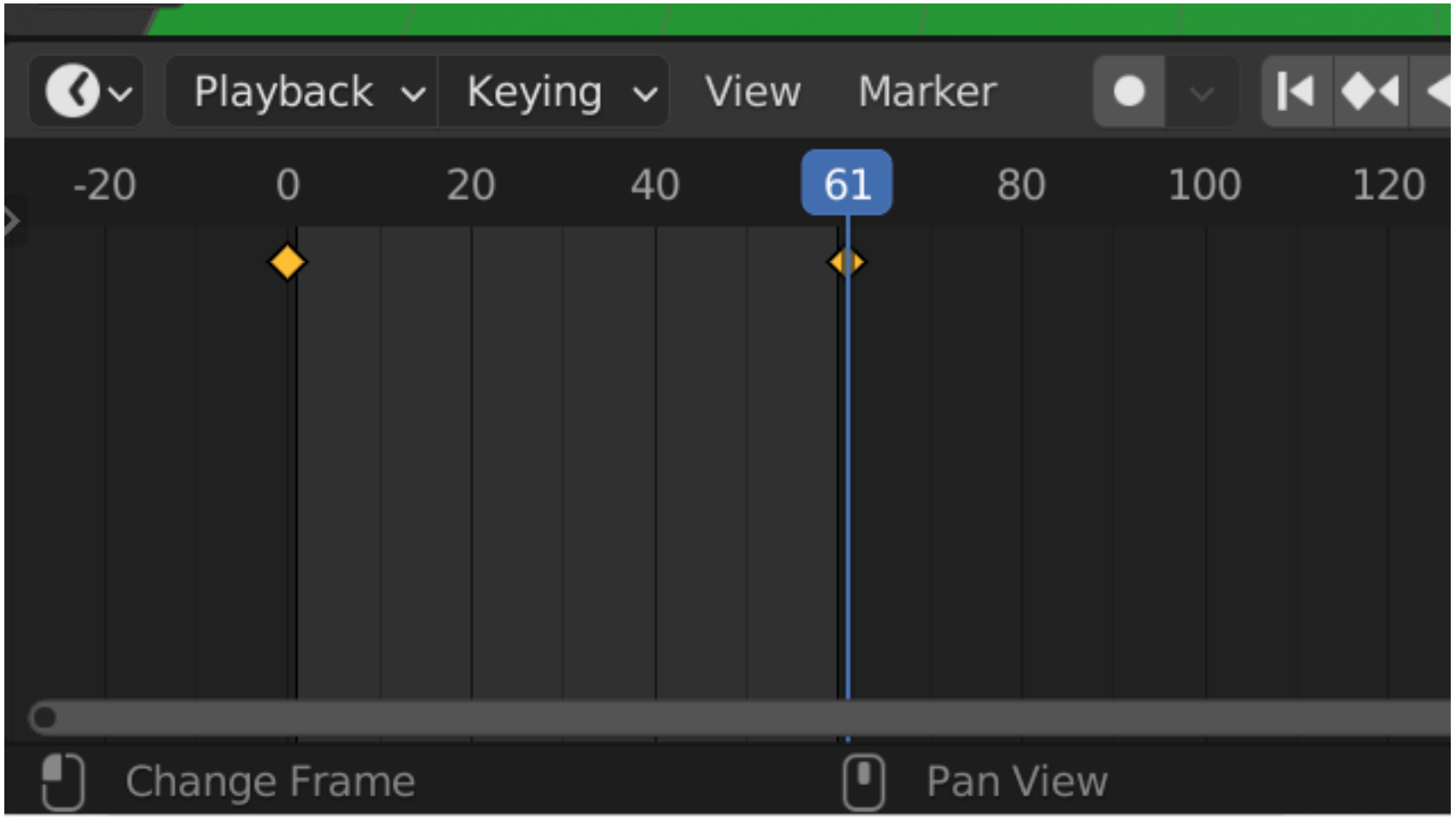
Now add another key by press 'I'



Step 02

Now we have two keys on the timeline

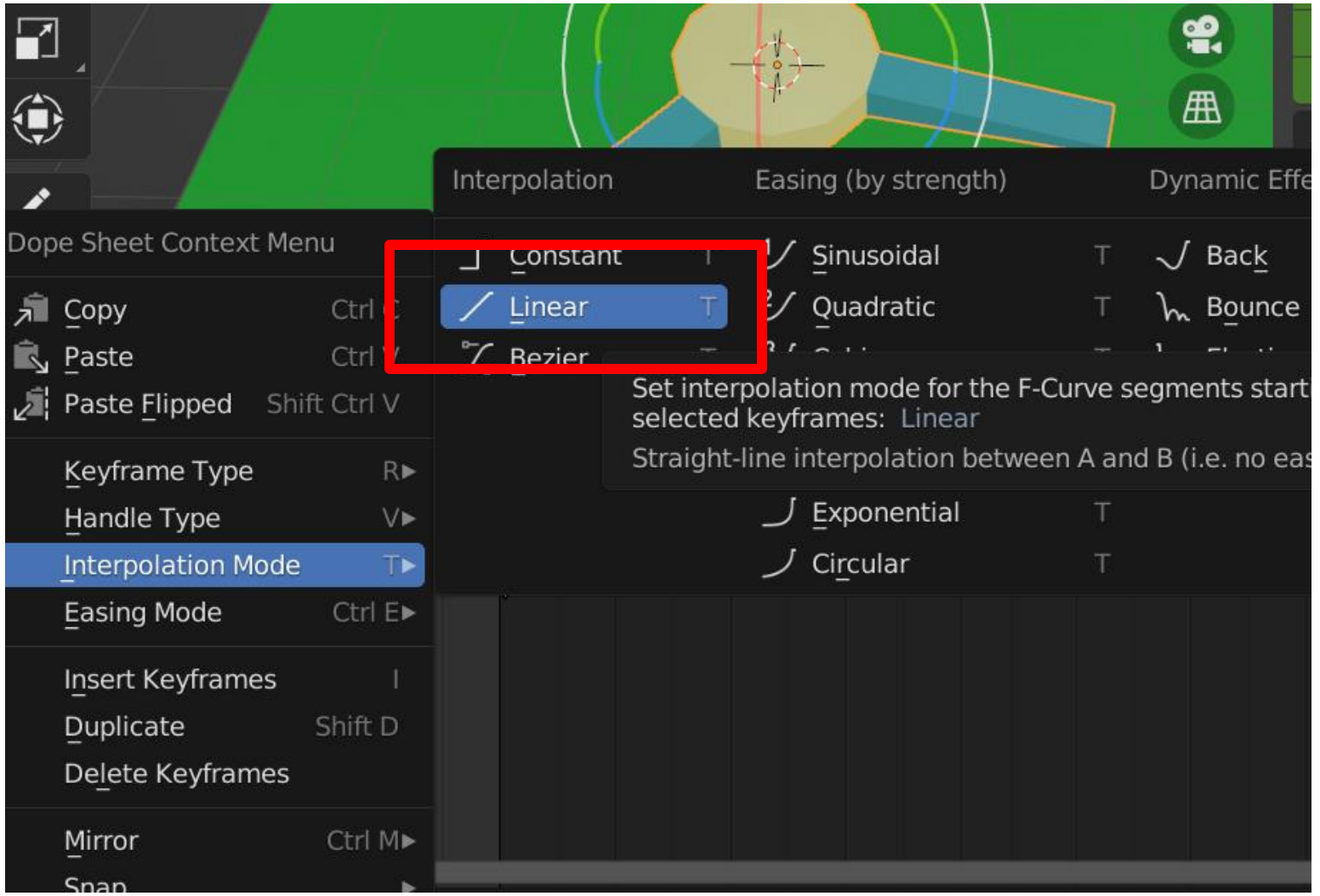
=> next preview the animation by 'play'



Step 03

Set the Interpolation Mode to 'Linear'

Right click context menu in the timeline



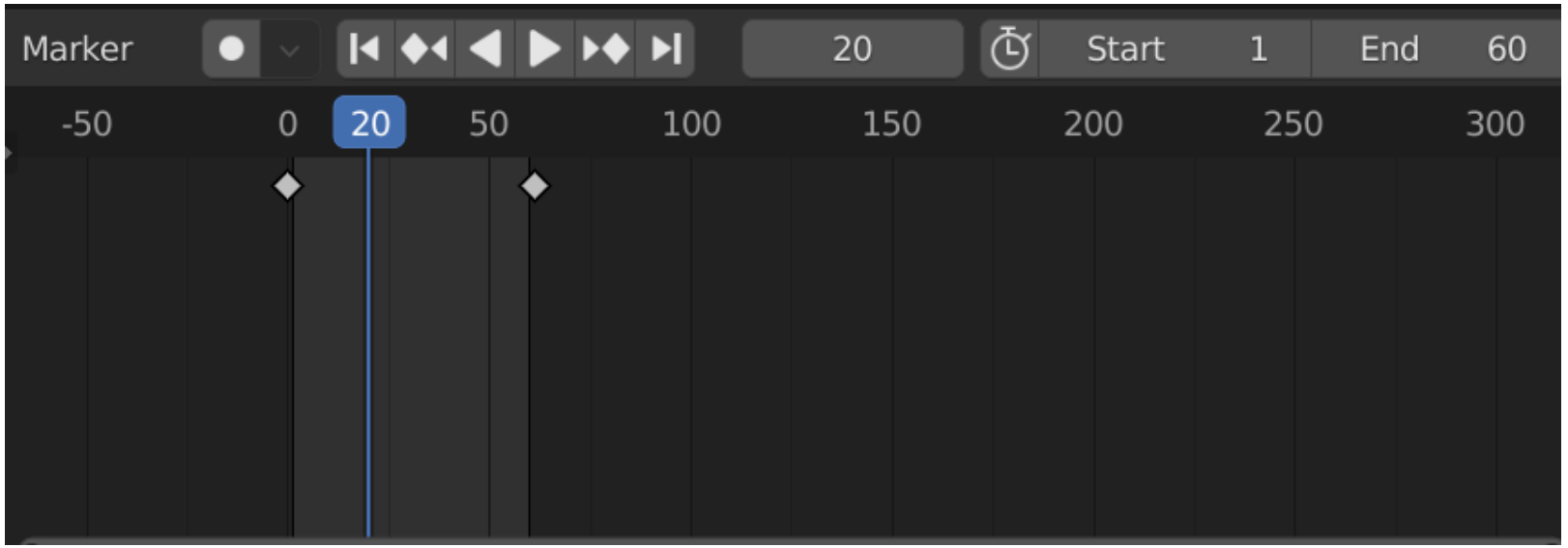
Question & Exercise

How to make the fan spin 2 times faster?

Rotational Speed

$$\text{speed} = \frac{\text{distance traveled}}{\text{time it took}}$$

Hint: work with the timeline frame count

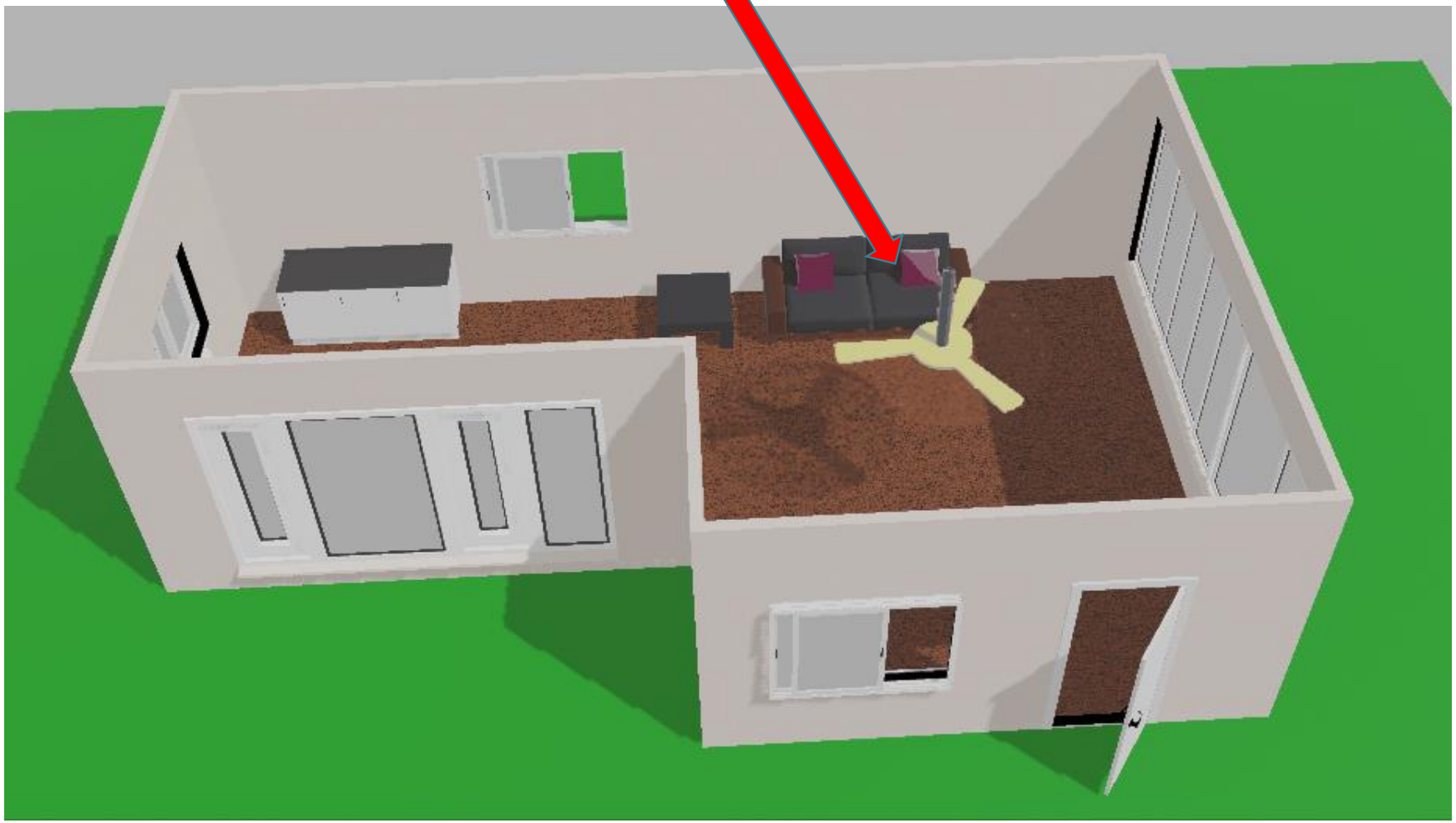


Some Exercises

How to create an extension rod?

How to reposition them in the rooms?

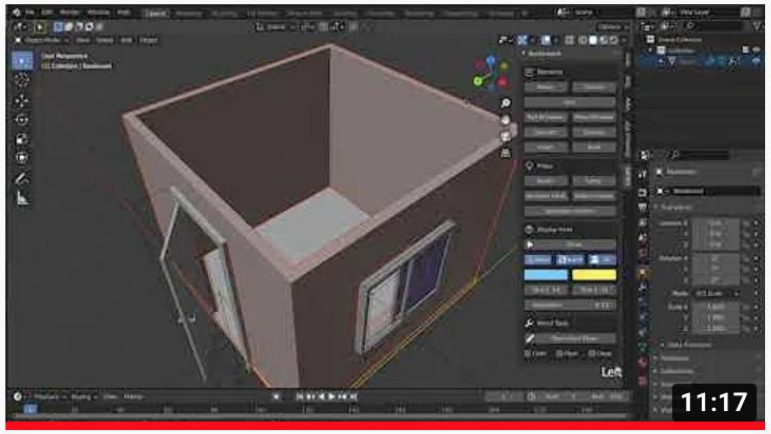
Hint: try another cylinder



Play time:

- add furniture
- change materials
- add or change lighting
- render new images
- work on your own house

Some Good Learning Resource



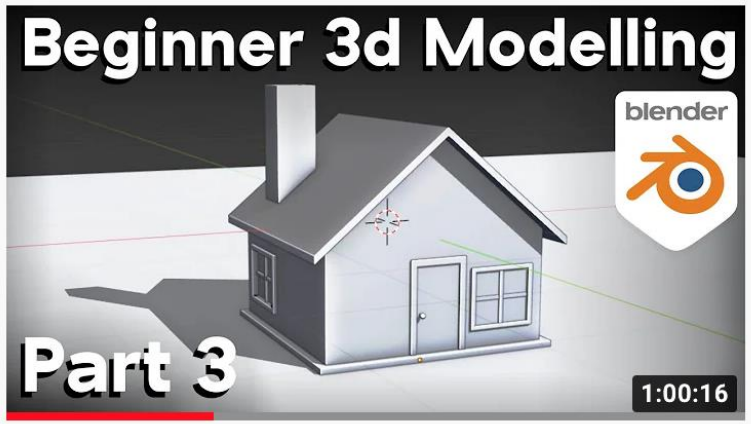
Blender 2.9 3D Architecture 1- Build a Simple House

82K views • 1 year ago

Applied Adaptive Learning

We built a simple **house** model using the Archimesh package in **blender**, which al

https://youtu.be/LaUVDQ8eFSY



Part 3-Blender Beginner Tutorial (Modelling the House)

21K views • 1 year ago

Ryan King Art

Welcome to part 3 of my Complete **Blender** Beginner **Tutorial** Series. In this part, we wi

A: Select All Objects | X: Delete Selected Objects | Shift + A: Add Menu | Sc

https://youtu.be/gyPHCDPvkoI

Blender 3.0 Beginner Donut Tutorial

Blender Guru

Blender 3.0 Beginner Tutorial - Part 1 • 16:43

Blender 3.0 Beginner Object Editing Tutorial (Donut part 2) • 21:17

VIEW FULL PLAYLIST

https://youtu.be/nIoXOplUvAw

Thank you ☺

lailei.huang@canadabay.nsw.gov.au

Feedback Welcome!