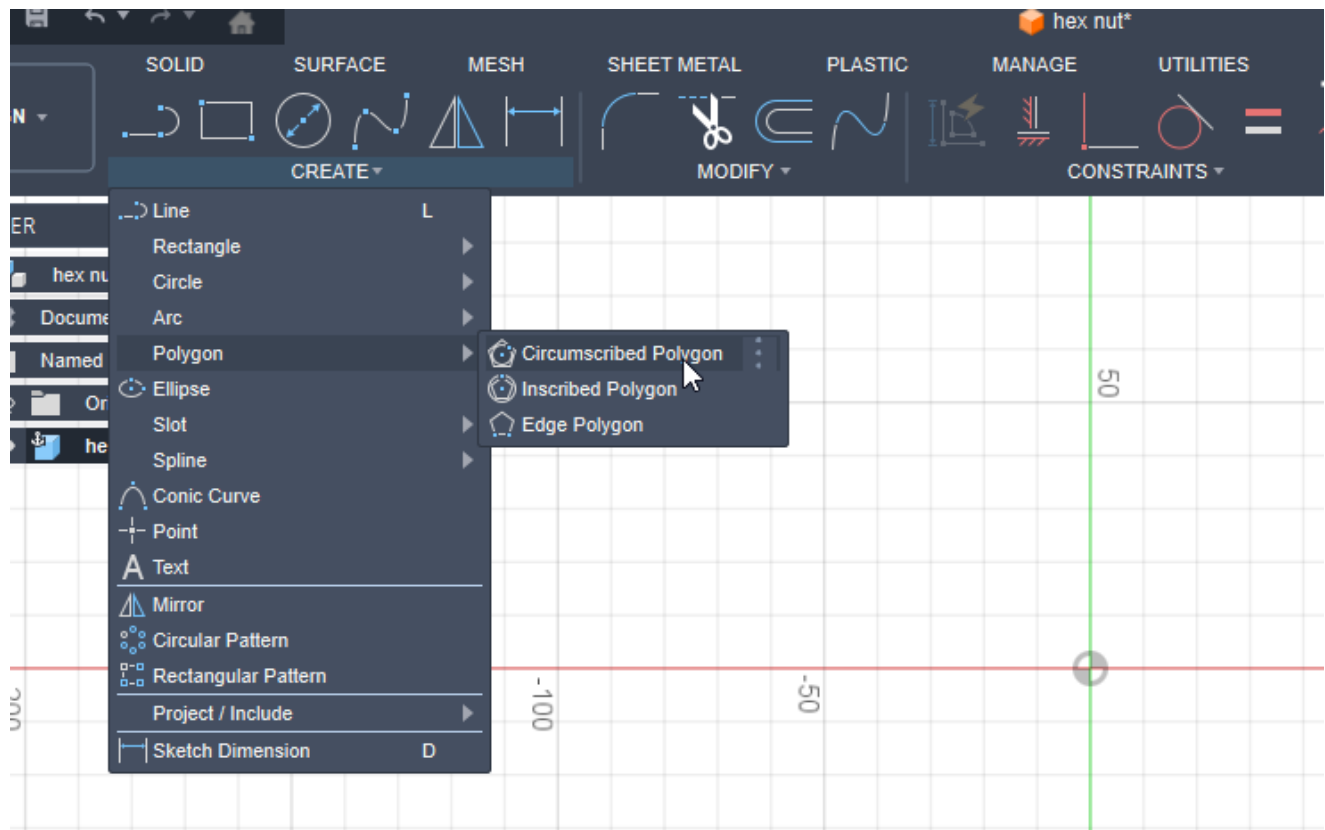


Hex Nut

1. Start with Circumscribed Polygon

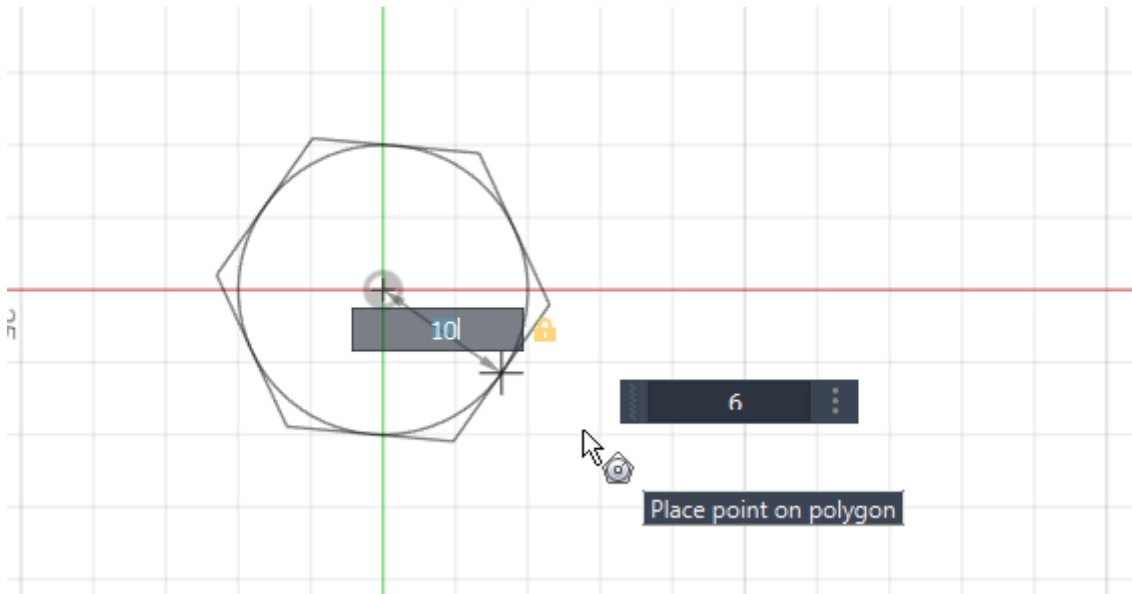


Start a new component **Hex Nut**.

Create Sketch on **XY plane**.

Use **Create** → **Polygon** → **Circumscribed Polygon**.

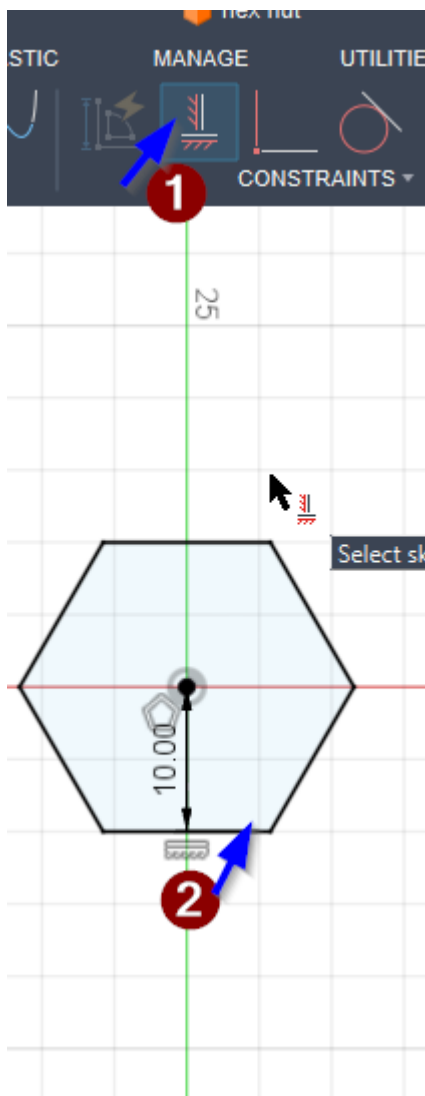
2. Define Polygon Size



- Start at origin
- Type **10 mm** (center → flat)
- Set **6 sides**

Apply **Horizontal/Vertical constraint** to the top edge to fully define the hex.

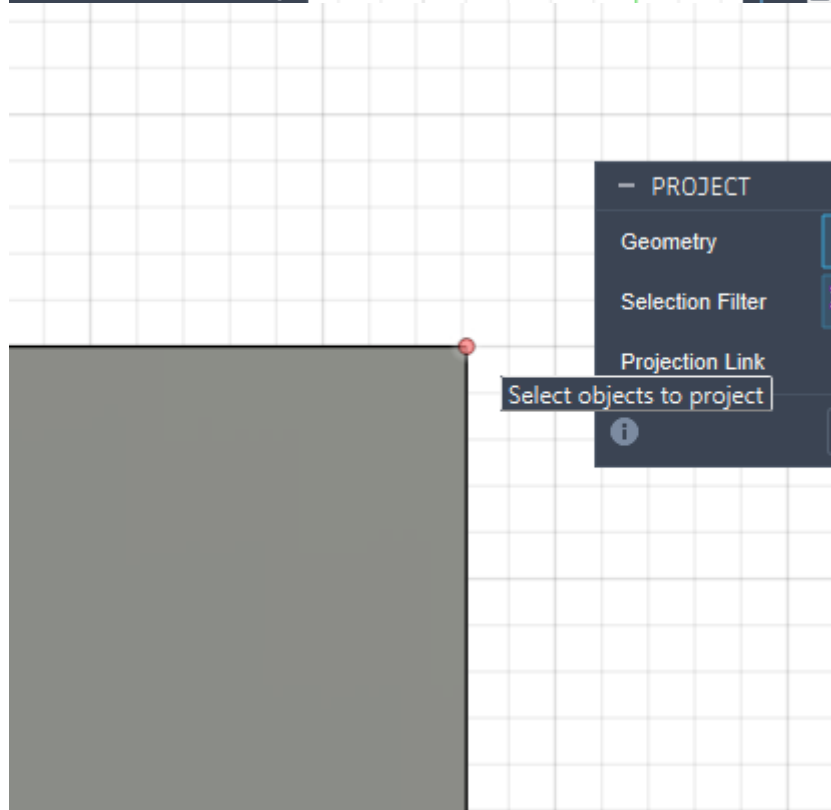
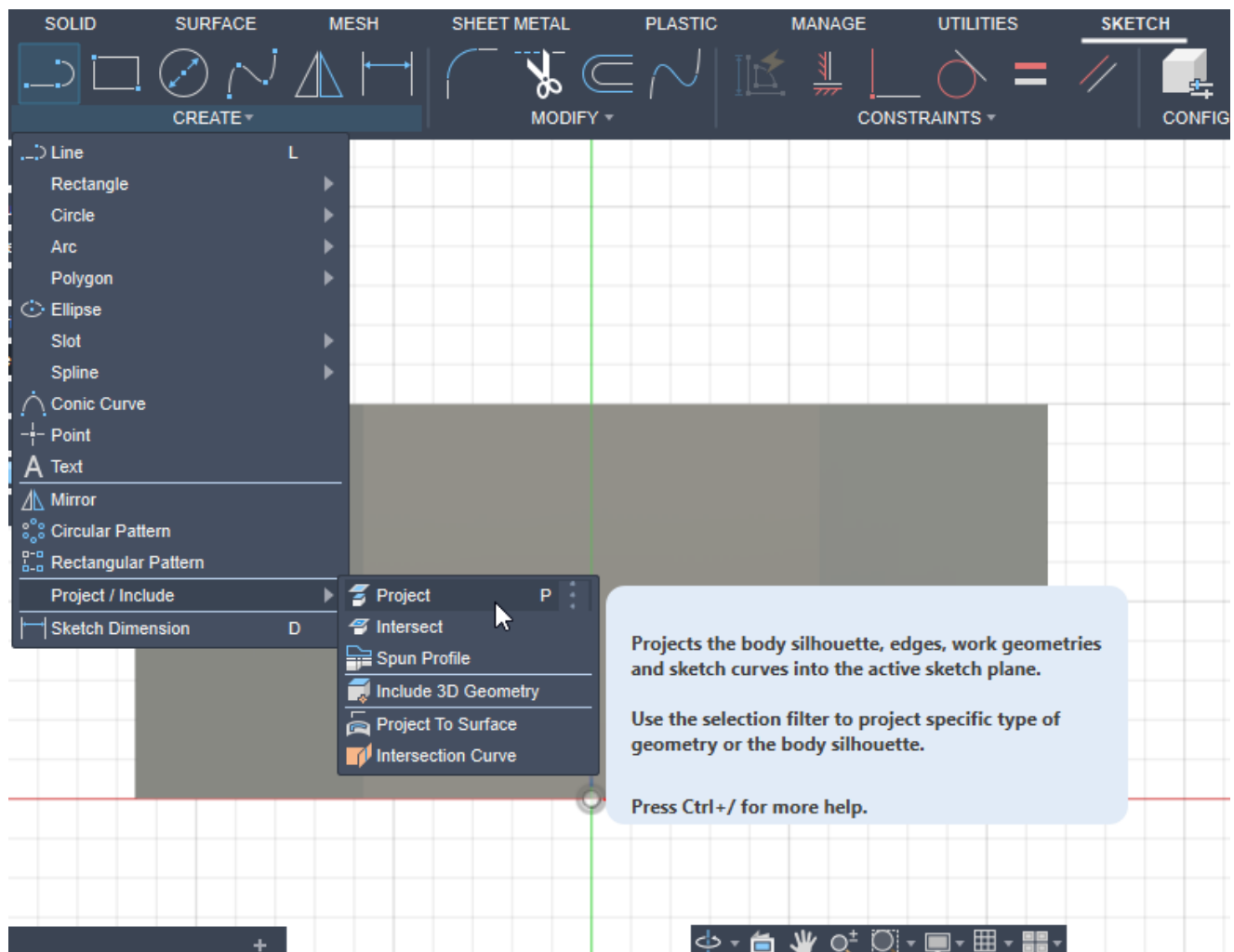
3. Extrude the Hex



Extrude the hex face:

- **Distance = 10 mm**

4. Project Corner for Triangle Sketch



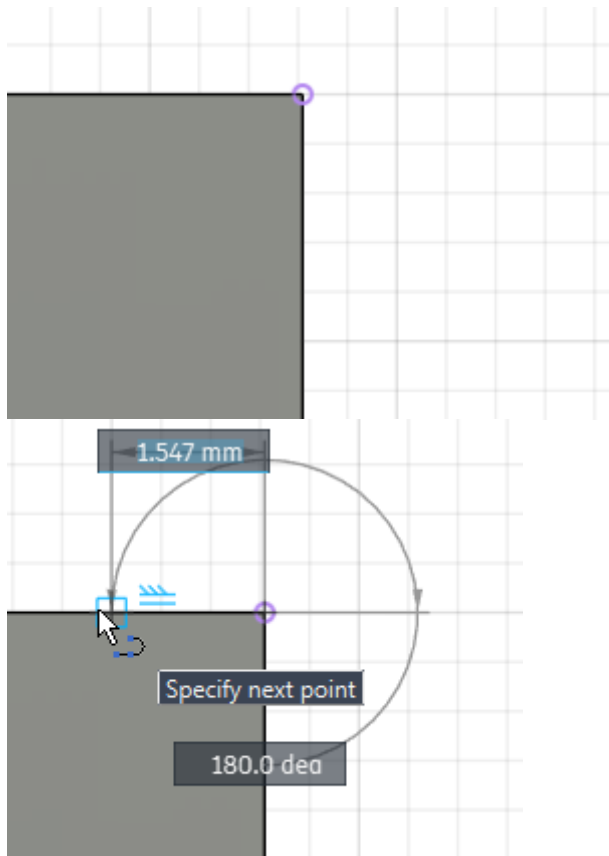
Create sketch on **XZ plane**.

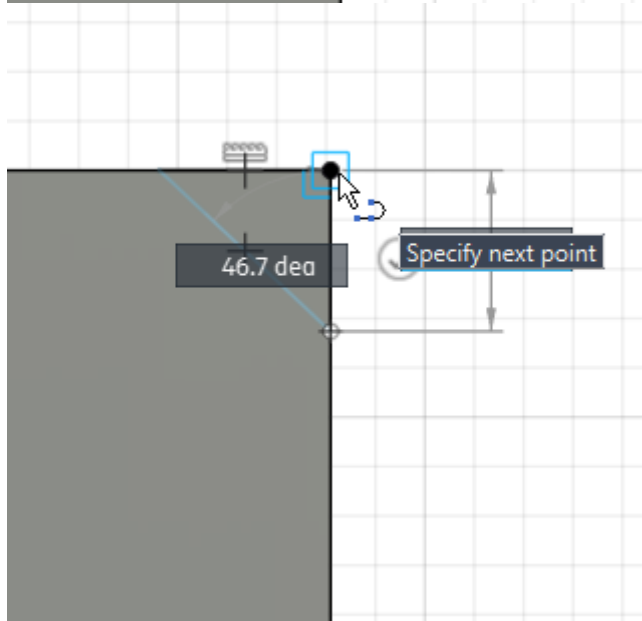
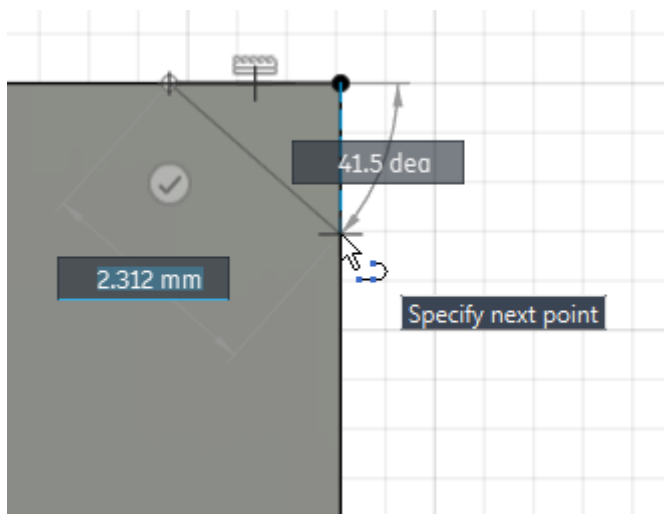
Use **Sketch** → **Project/Include** → **Project**.

Click one **corner vertex** → **OK**.

This creates a purple projected point you can snap to.

5. Draw the Chamfer Triangle





Draw a triangle using Line tool.

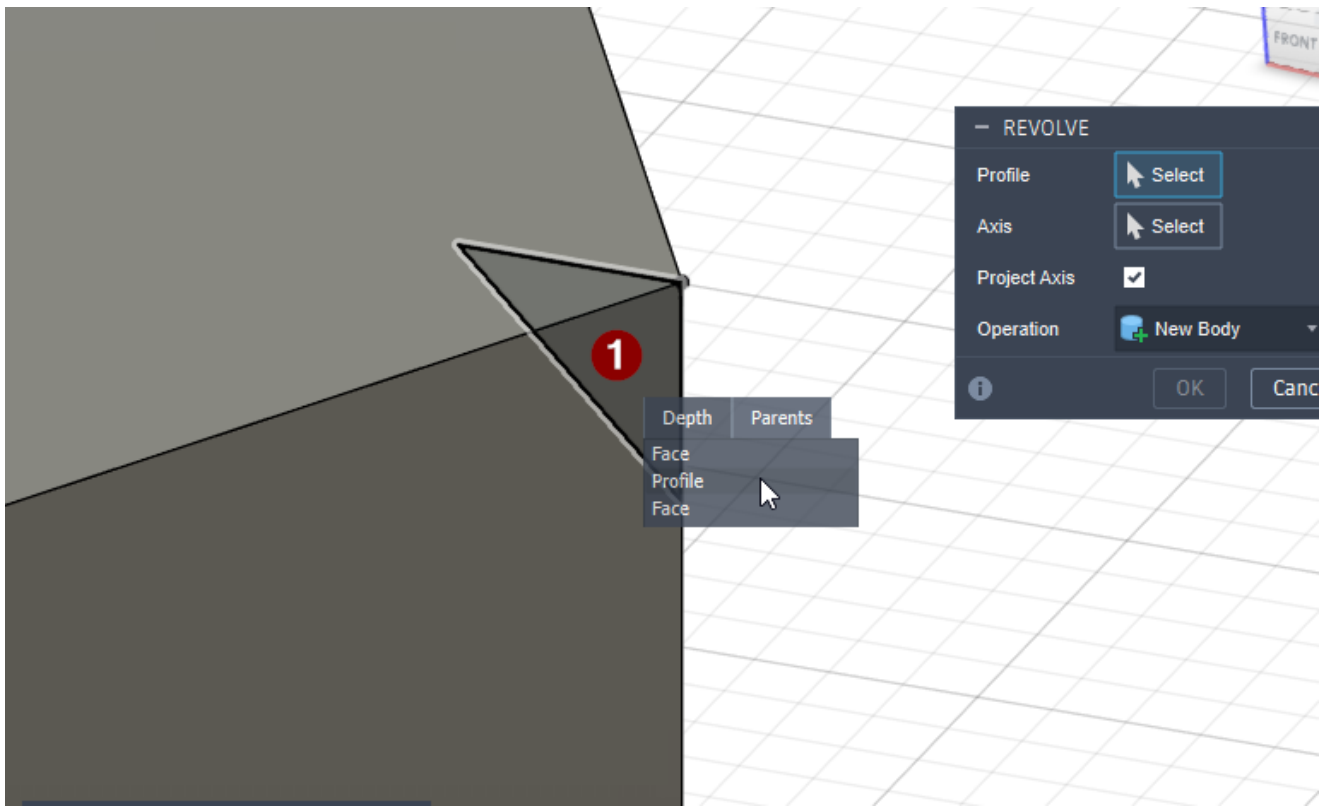
Apply dimensions:

- **All sides = 1.5 mm**

Use **Equal constraint** to ensure sides match where necessary.

Sketch should turn **black** (fully constrained).

6. Revolve Cut the Triangle



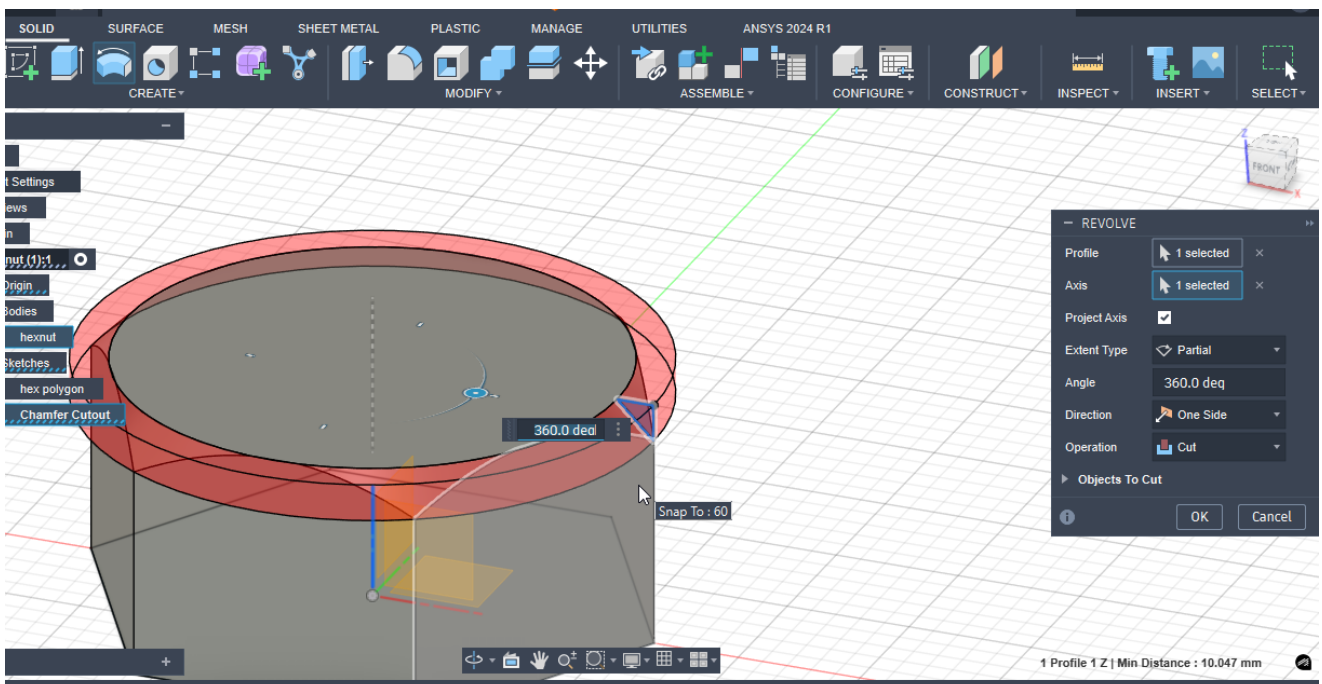
Go to **Create** → **Revolve**.

1 — Long-press selection to pick the **triangle profile**

2 — Select **Z-axis** as Revolve Axis

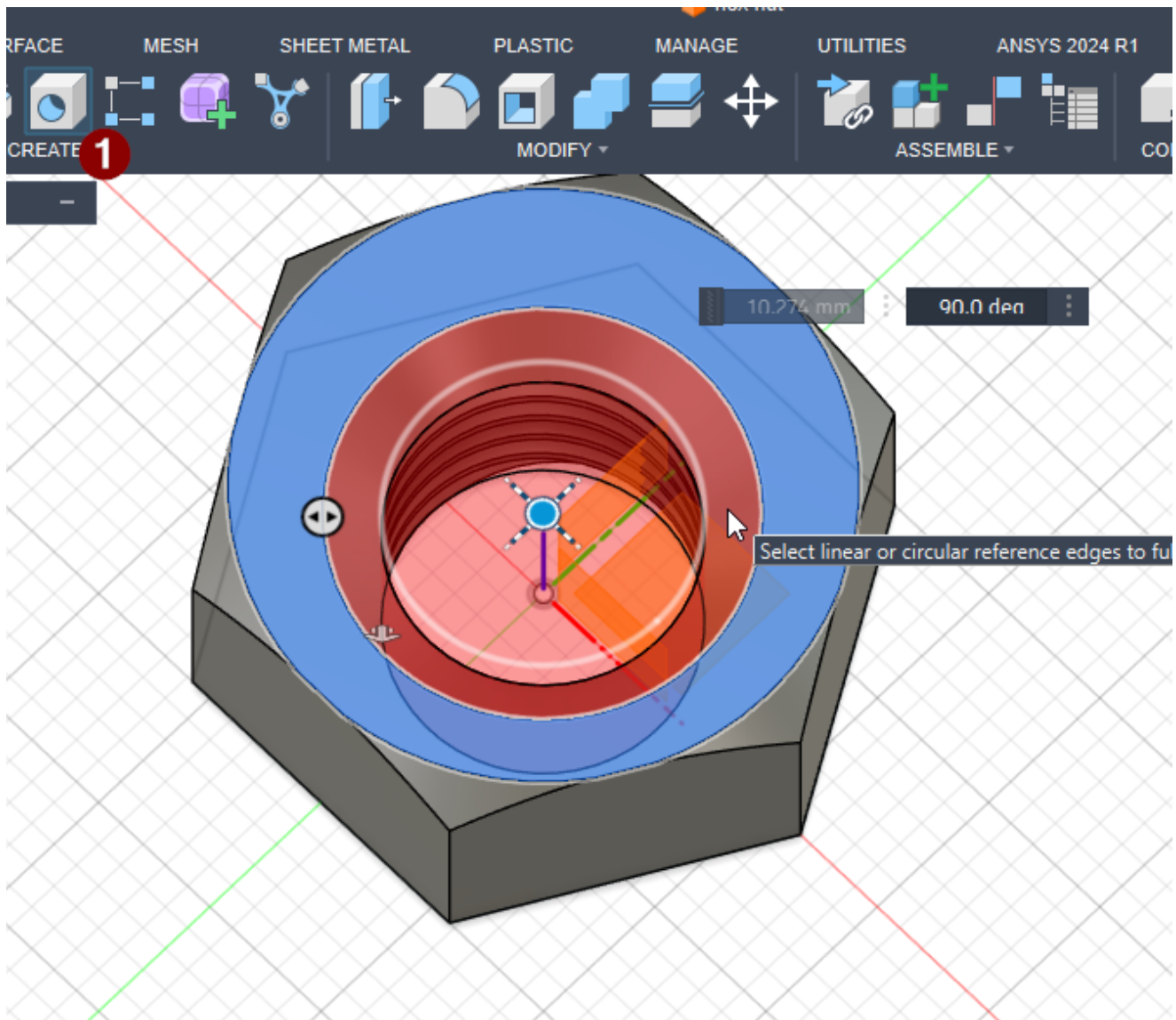
Operation automatically becomes **Cut**.

Click **OK**.



Chamfer is now cut around one side.

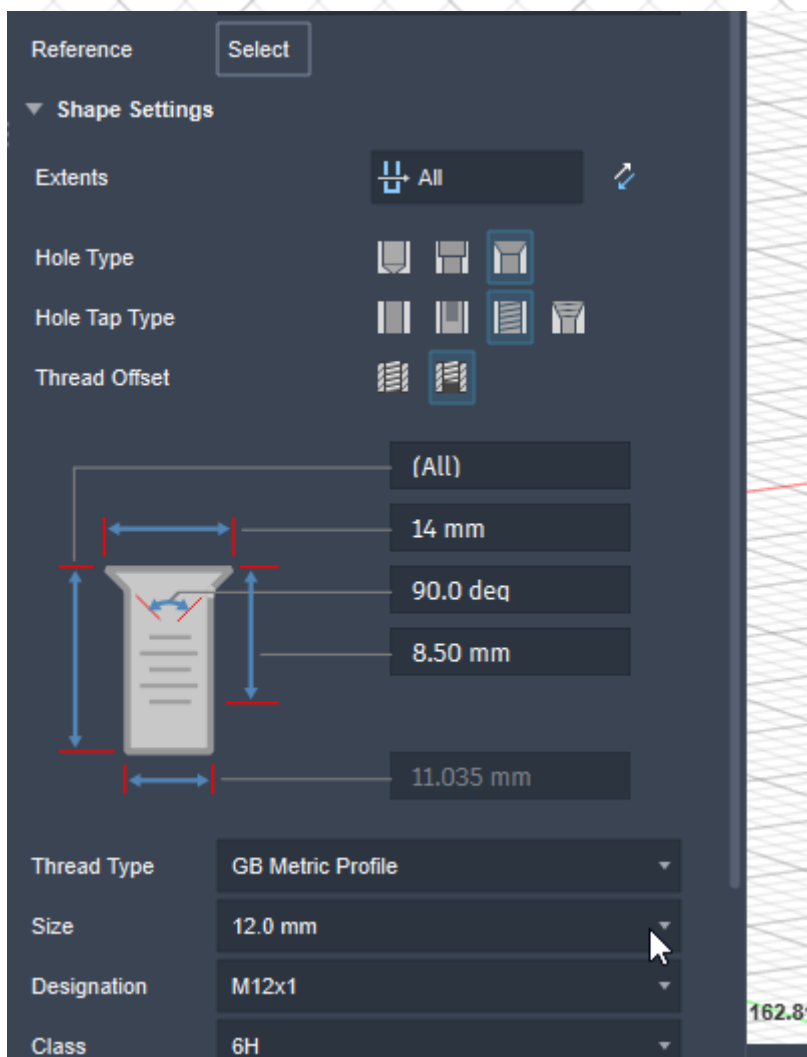
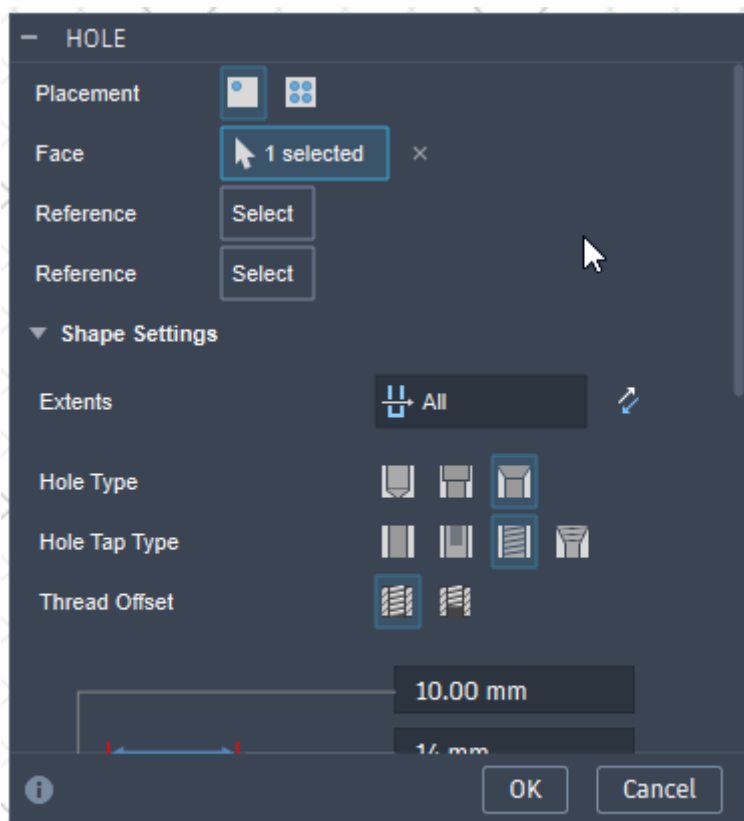
7. Create Threaded Hole



Go to **Create** → **Hole**.

Click on the top face → snap to **center point**.

Use the following settings:

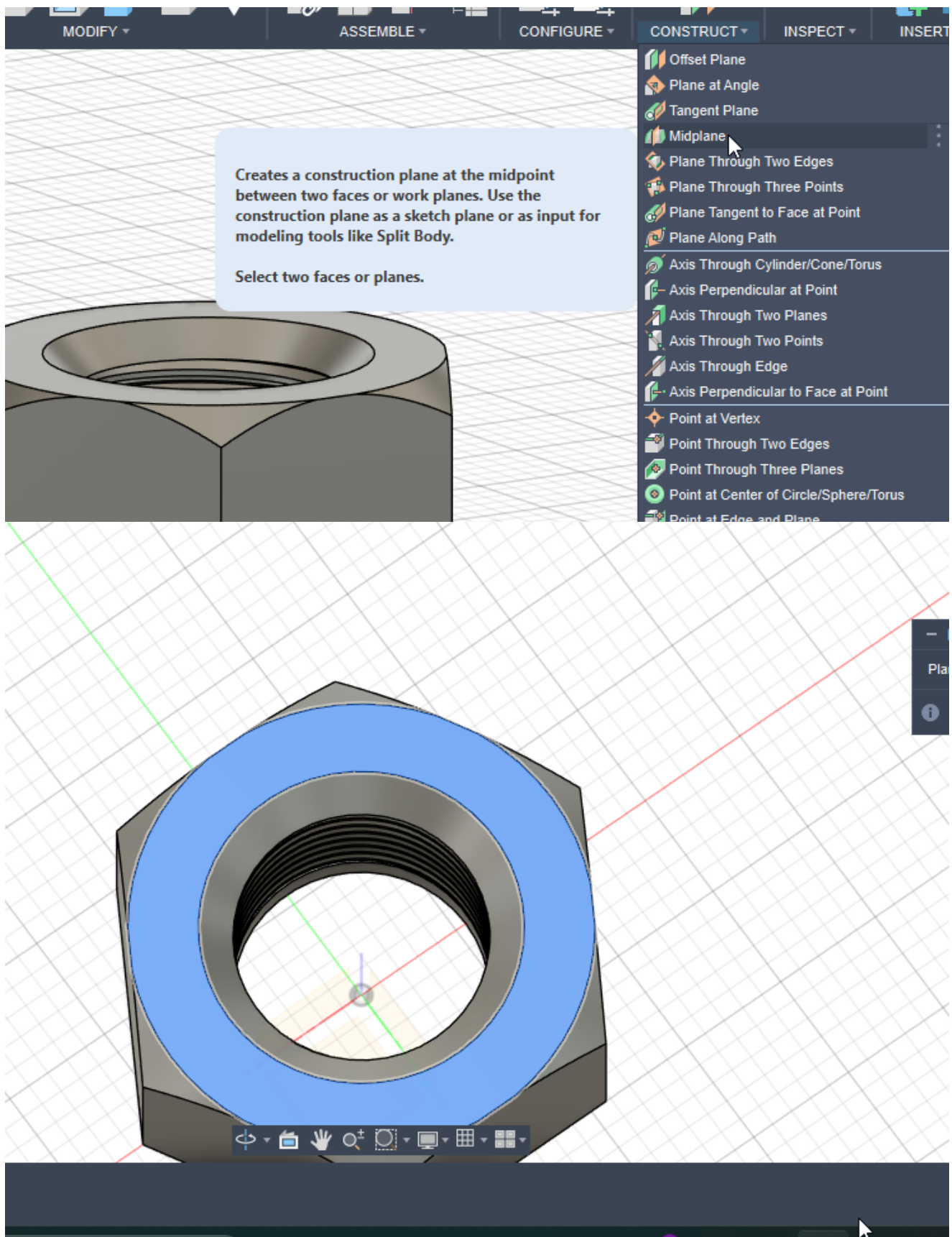


- **Placement:** Face

- **Extent:** All
- **Hole Type:** Countersink
- **Tap Type:** Tapped
- **Drill Point:** Flat
- **Countersink diameter:** 14 mm
- **Thread Type:** GB Metric Profile
- **Size:** 12 mm
- **Designation:** M12 × 1
- **Modeled:** ON

Apply → OK.

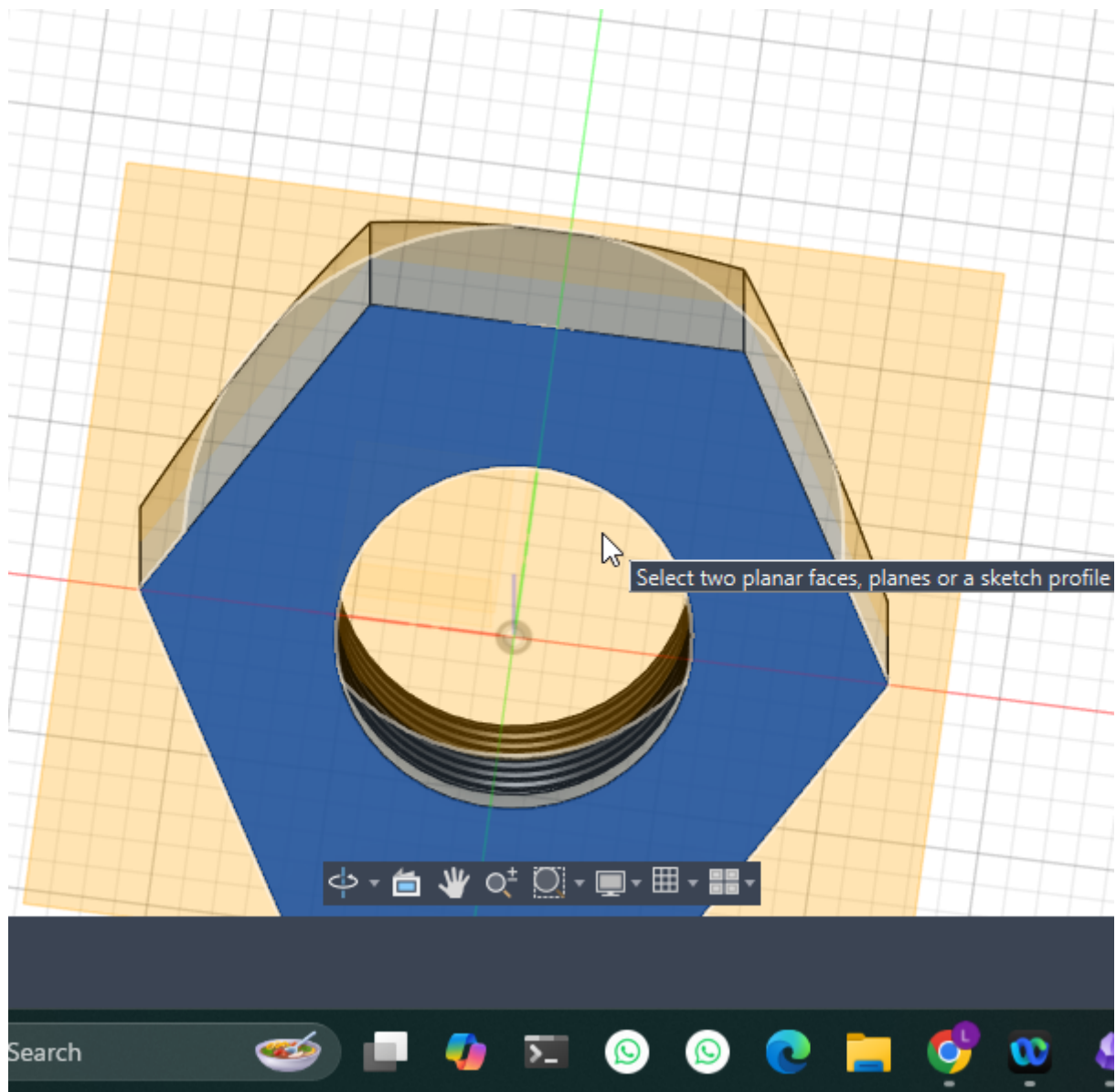
8. Create Midplane



Go to **Construct** → **Midplane**.

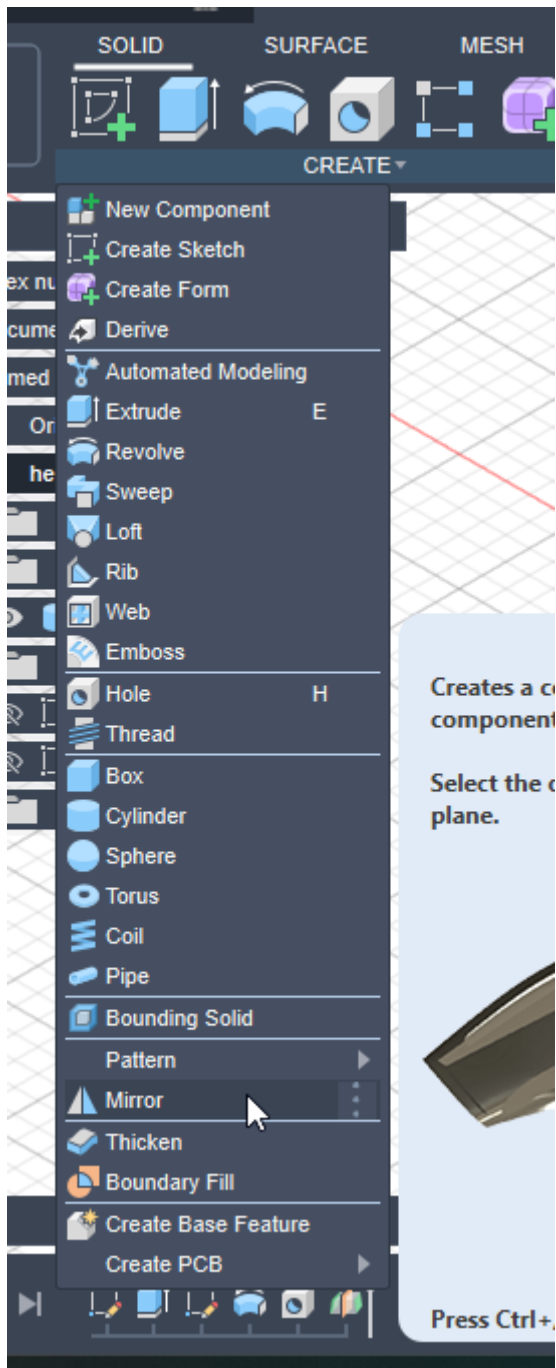
Select:

- Upper face
- Lower face

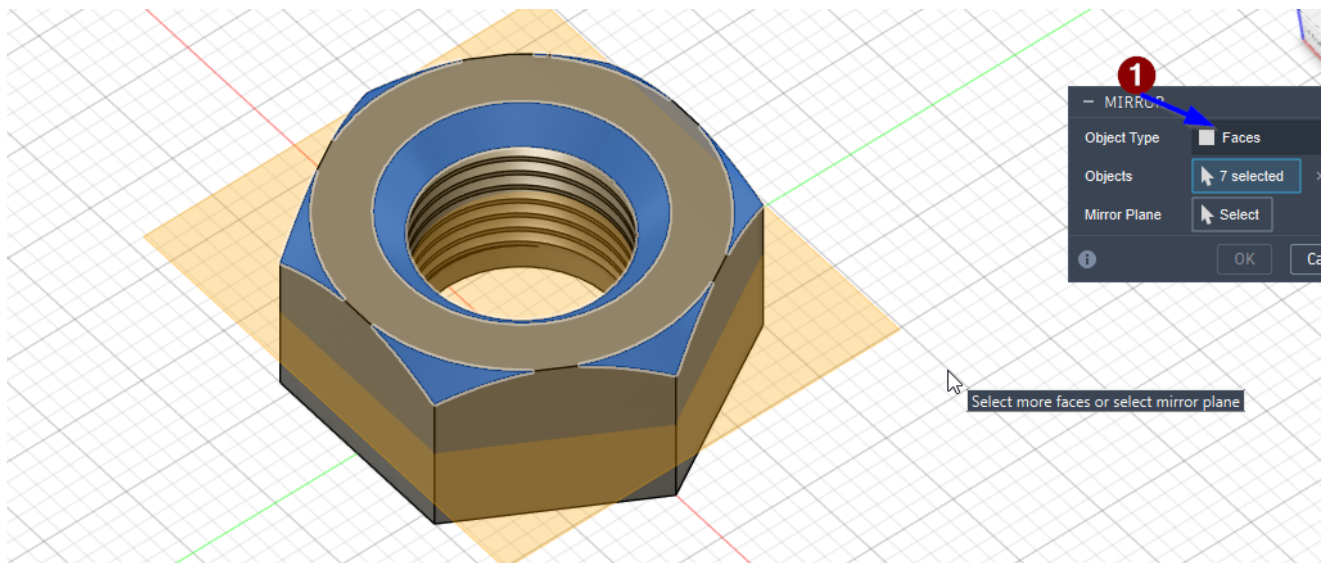


This creates a plane exactly in the center.

9. Mirror the Chamfer & Hole

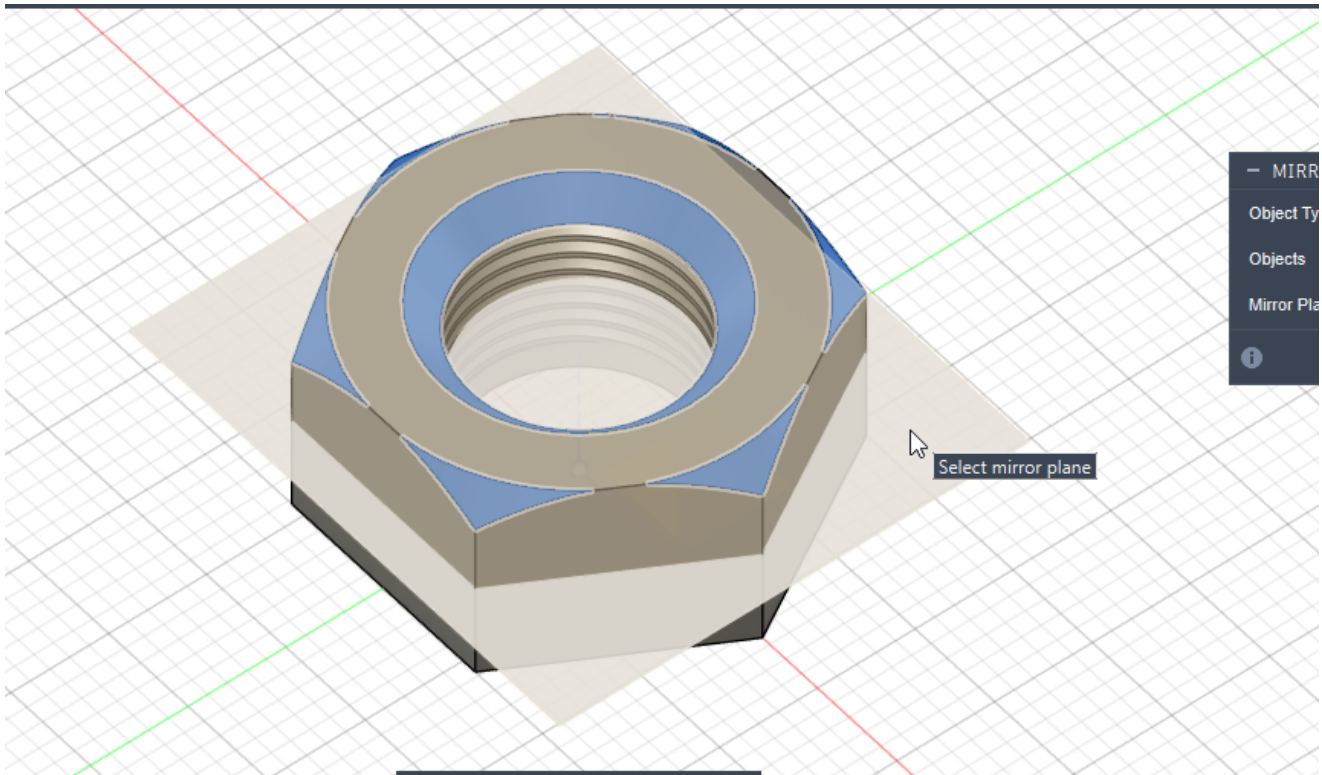


Go to **Create** → **Mirror**.



Set:

- **Object Type = Faces**
- Select all faces of:
 - Revolve cut chamfer
 - Threaded hole chamfer area



Select the **Midplane** as mirror plane → OK.

This mirrors the chamfer + hole to the other side.
