

# PART DESIGN (HOUSING DRUM)

From this diagram we have to know,

- ✓ Selection of plane
- ✓ Sketching the line and circle
- ✓ Constrain the dimension
- ✓ Measurement
- ✓ Trim the profile
- ✓ Exit work bench
- ✓ Pad the profile
- ✓ Plane offset
- ✓ Point marking
- ✓ Circular pattern
- ✓ Chamfering
- ✓ Pocket
- ✓ Edge fillet
- ✓ Concentricity locating
- ✓ Symmetricity
- ✓ Pan
- ✓ Zoom fit



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**CATIA v5** software is used to modeling this object.

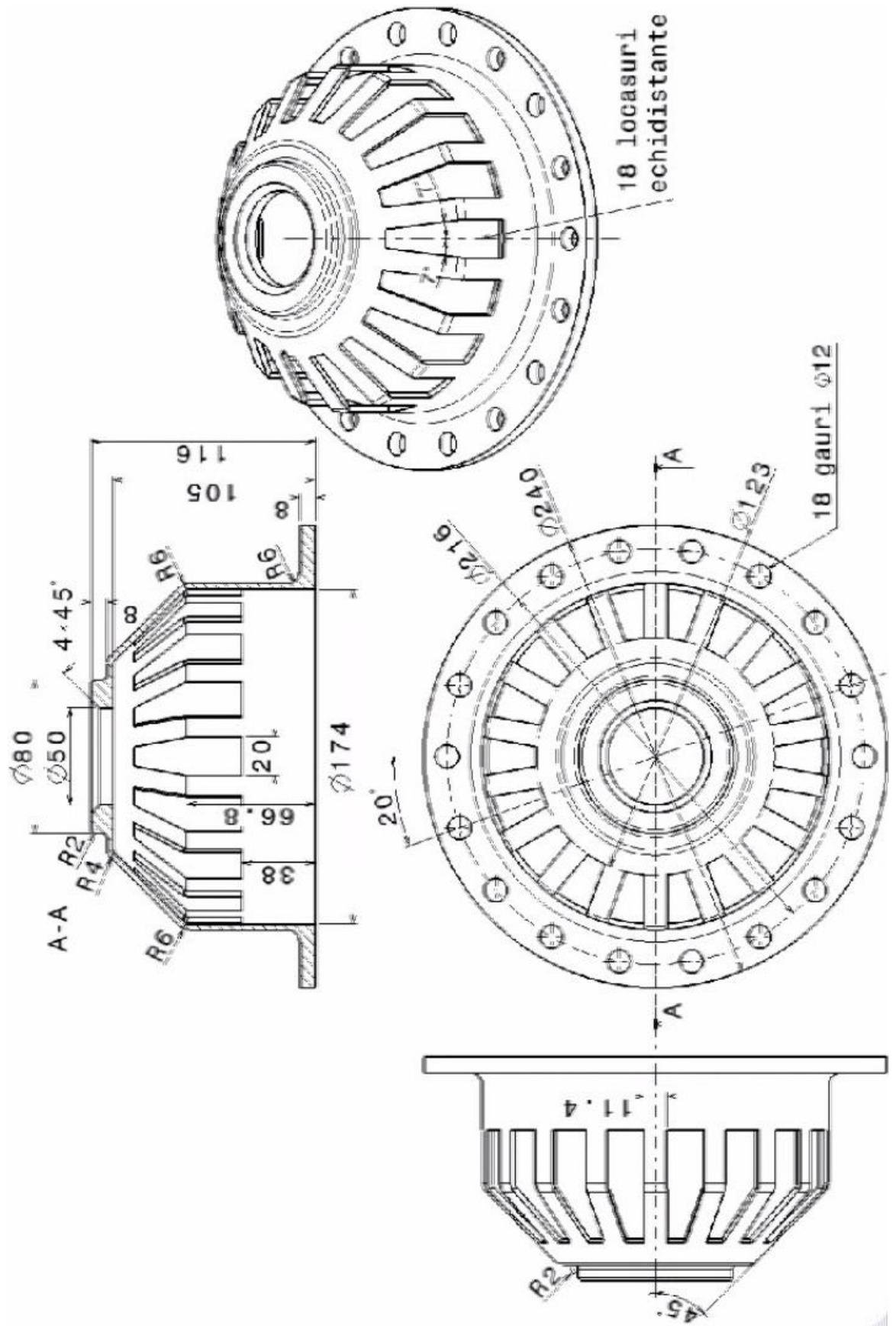
Prepared By

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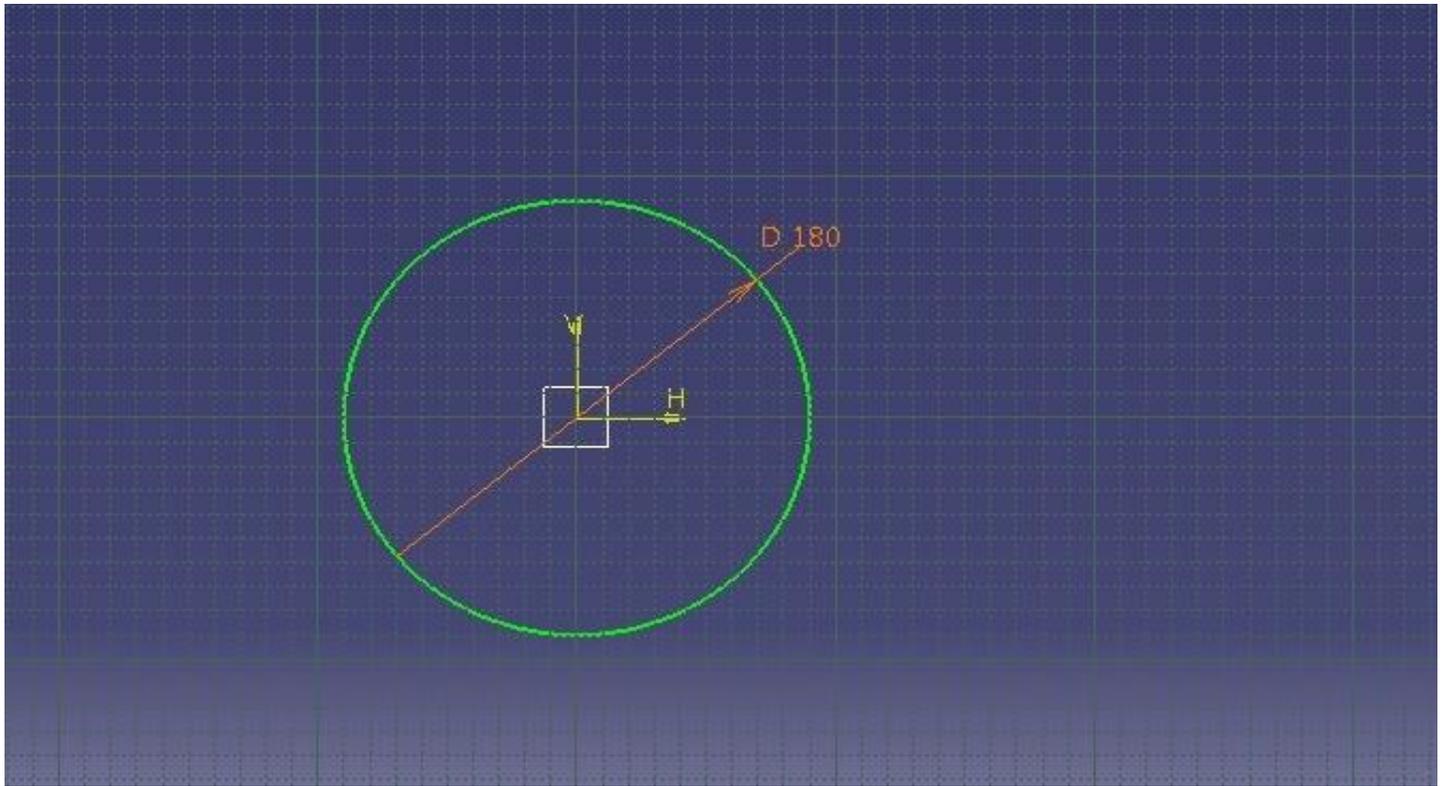
For video tutorial click the link

<https://www.youtube.com/watch?v=ki4MsDKNPhc>

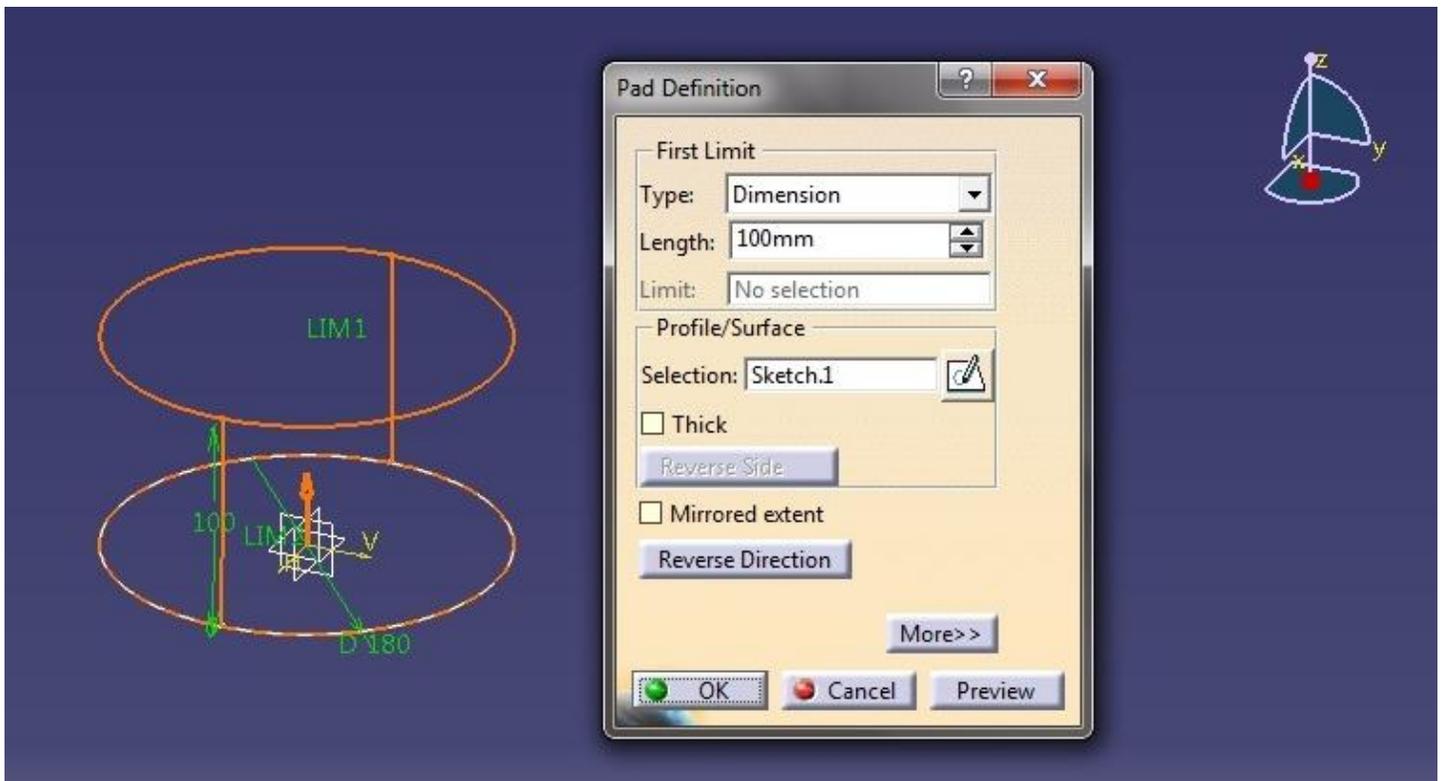


### WORKING STEPS

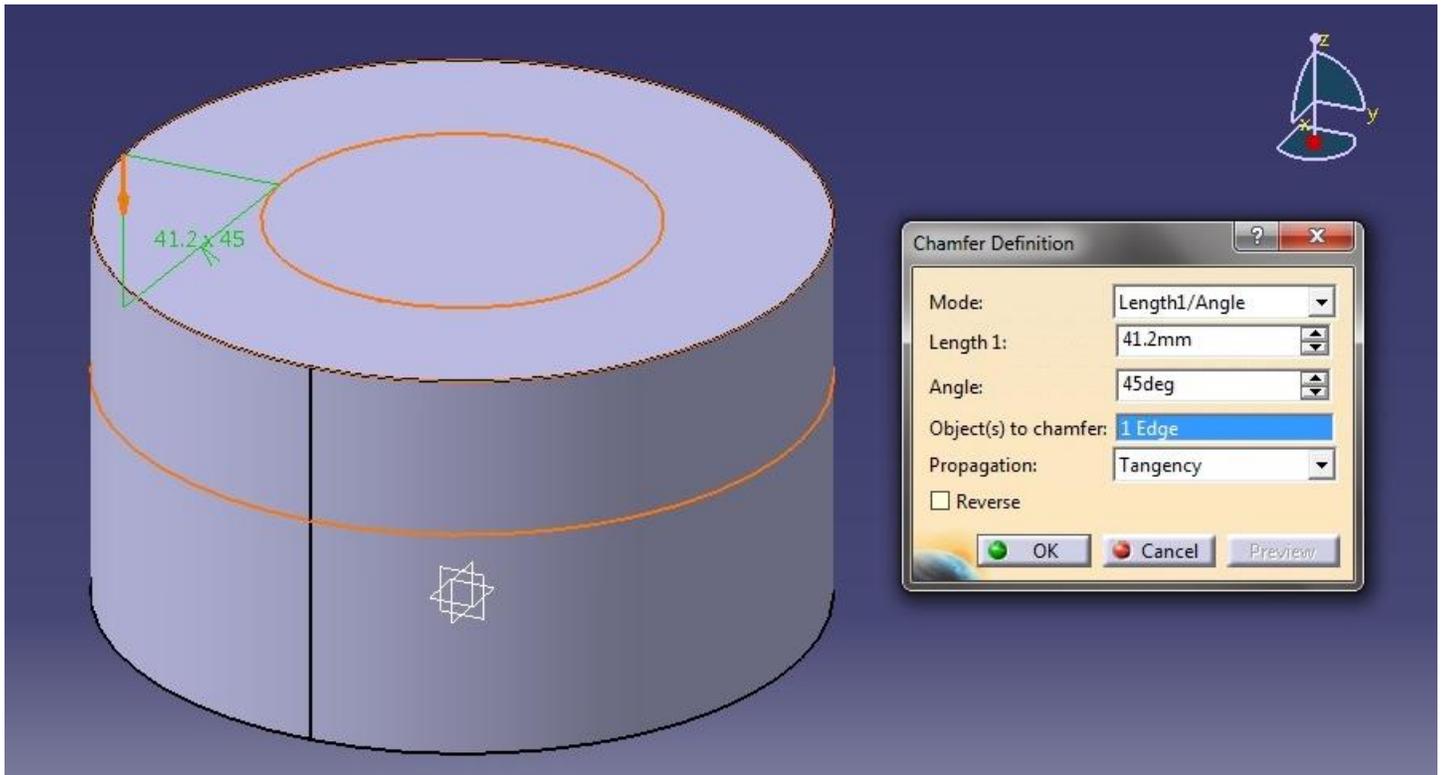
- ❖ Open the software wait some moments to tools loading.
- ❖ Draw the circle with 180mm diameter.



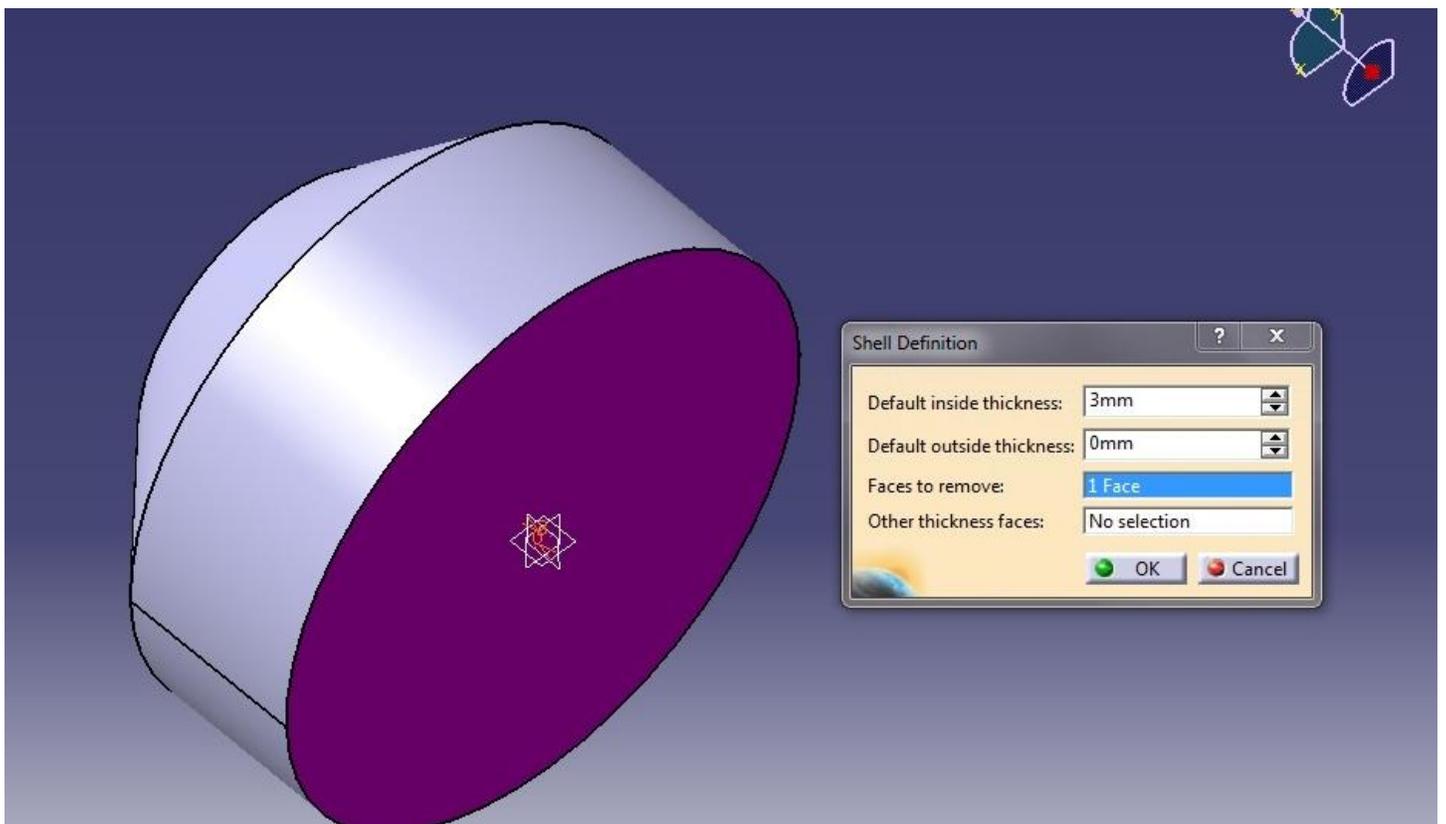
- ❖ Pad the circle about 100mm length.



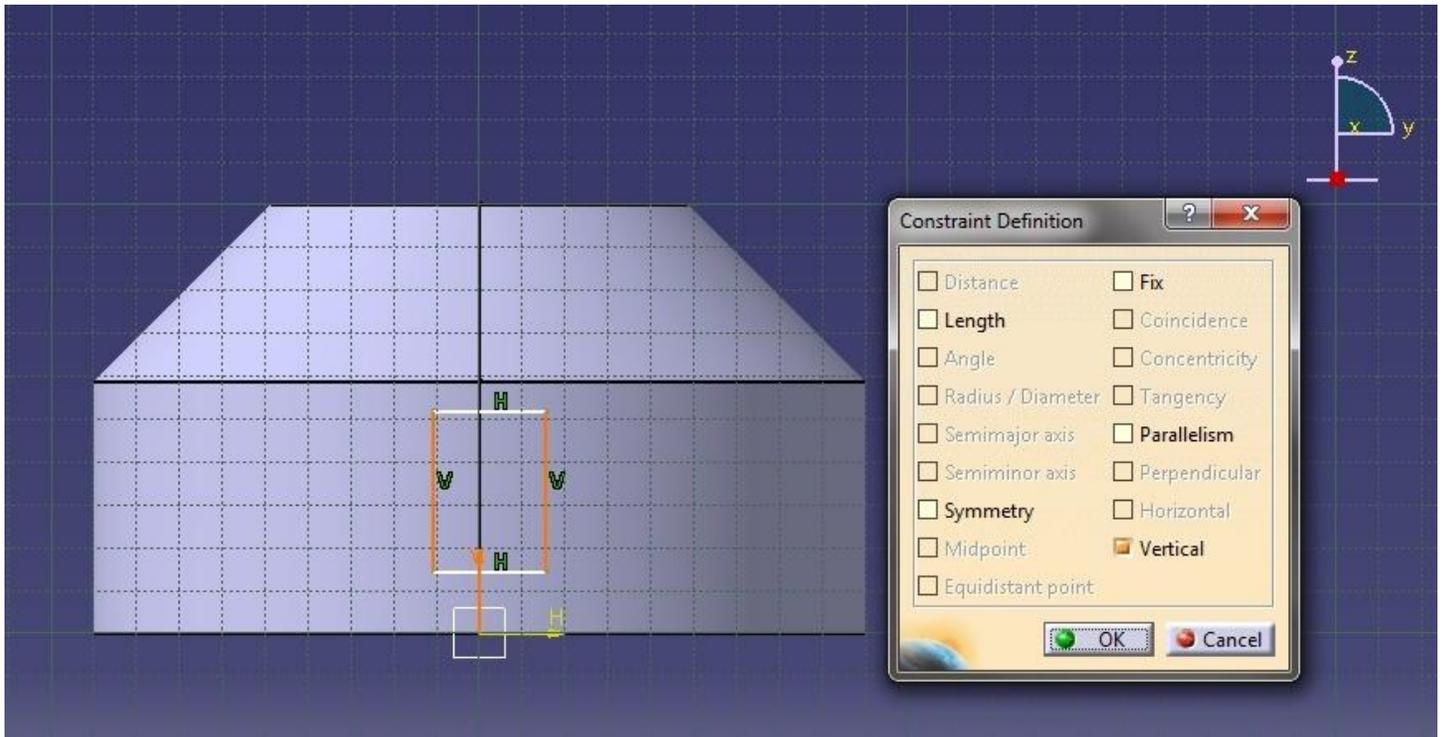
- ❖ Select the chamfer tool and give chamfer length 41.2mm



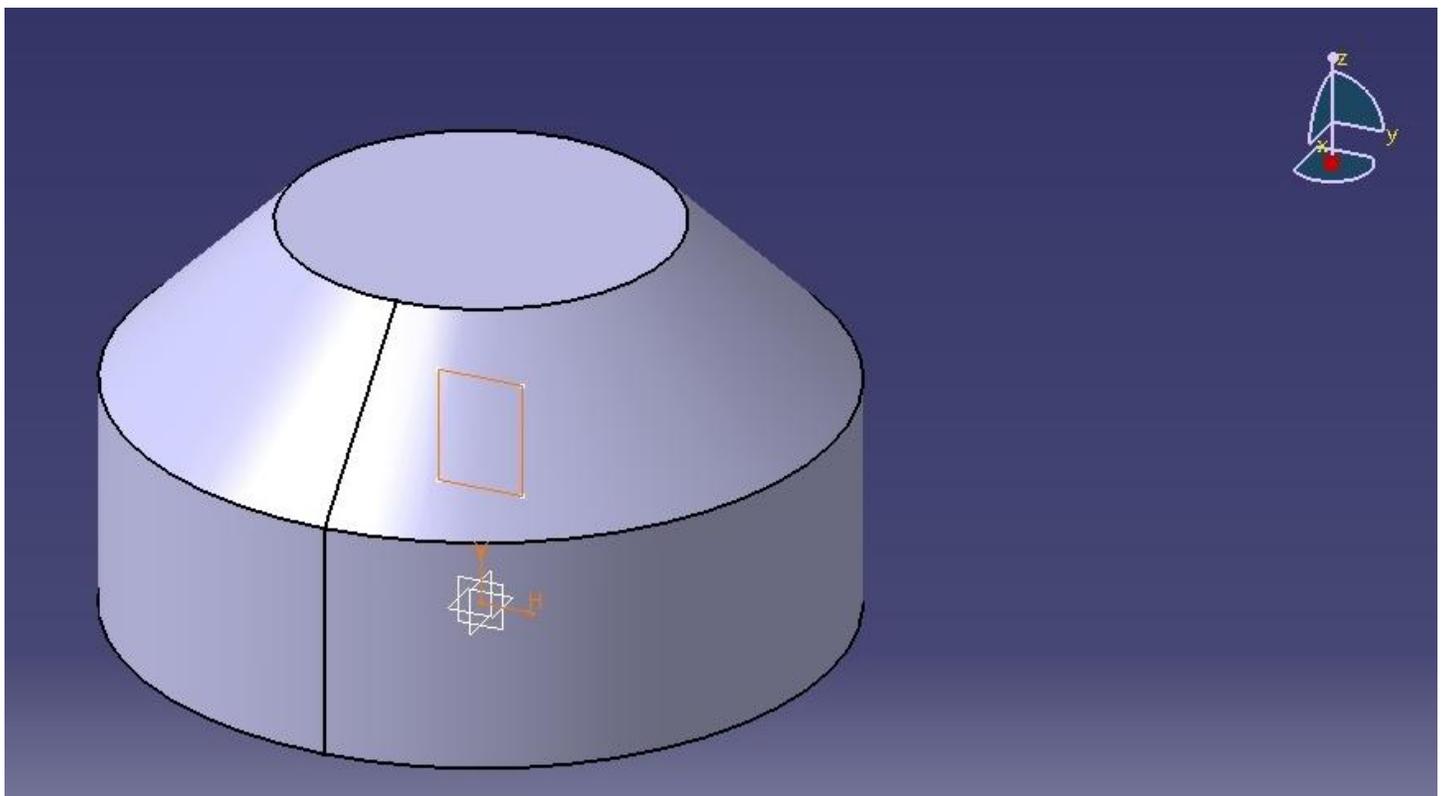
- ❖ After giving chamfer select the base the object and click the shell tool
- ❖ Put the inside thickness 3mm.then click ok.



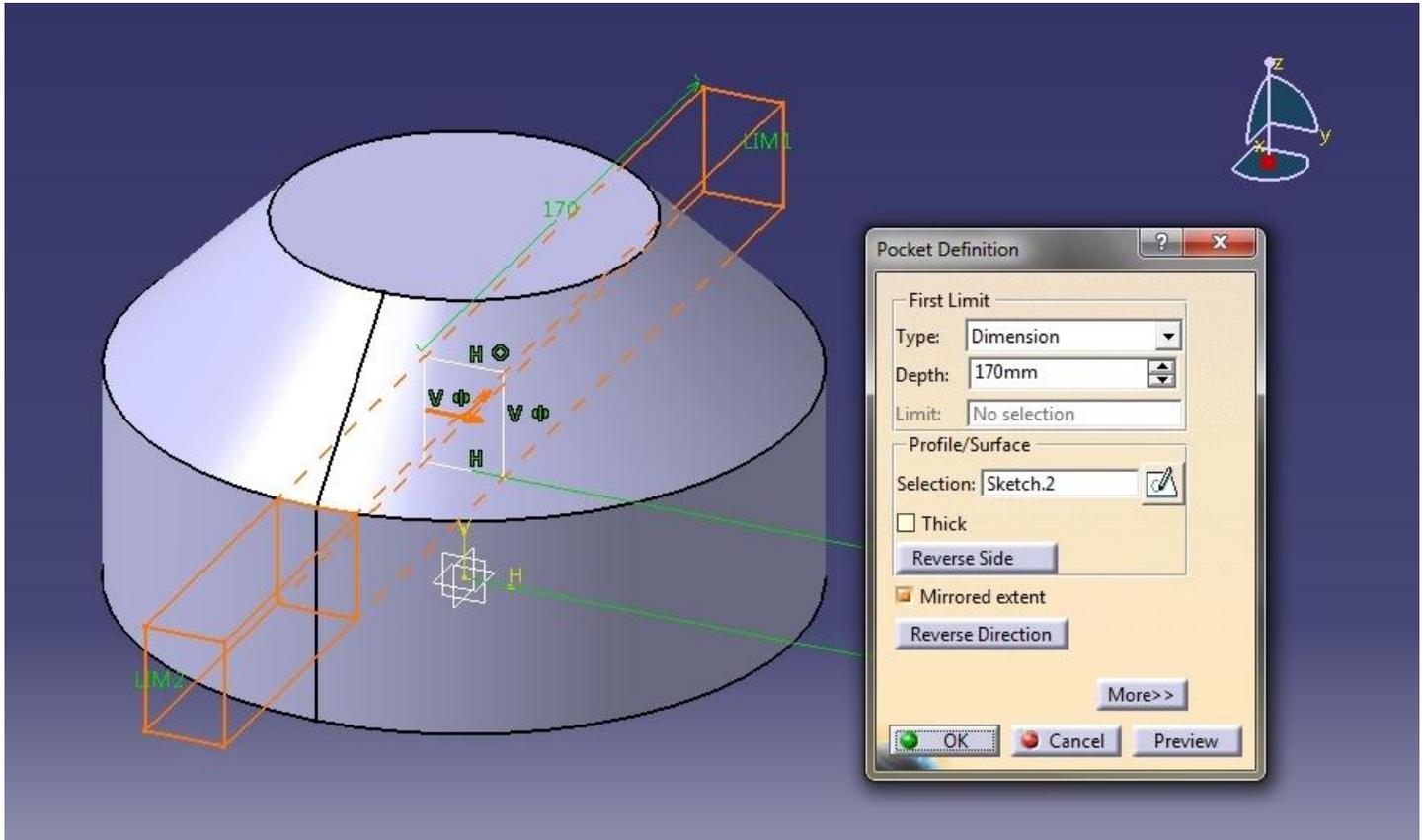
- ❖ Then select the suitable plane to obtain normal view of the object to get rectangle diagram.
- ❖ Here we have use symmetry option to gain appropriate constraint.



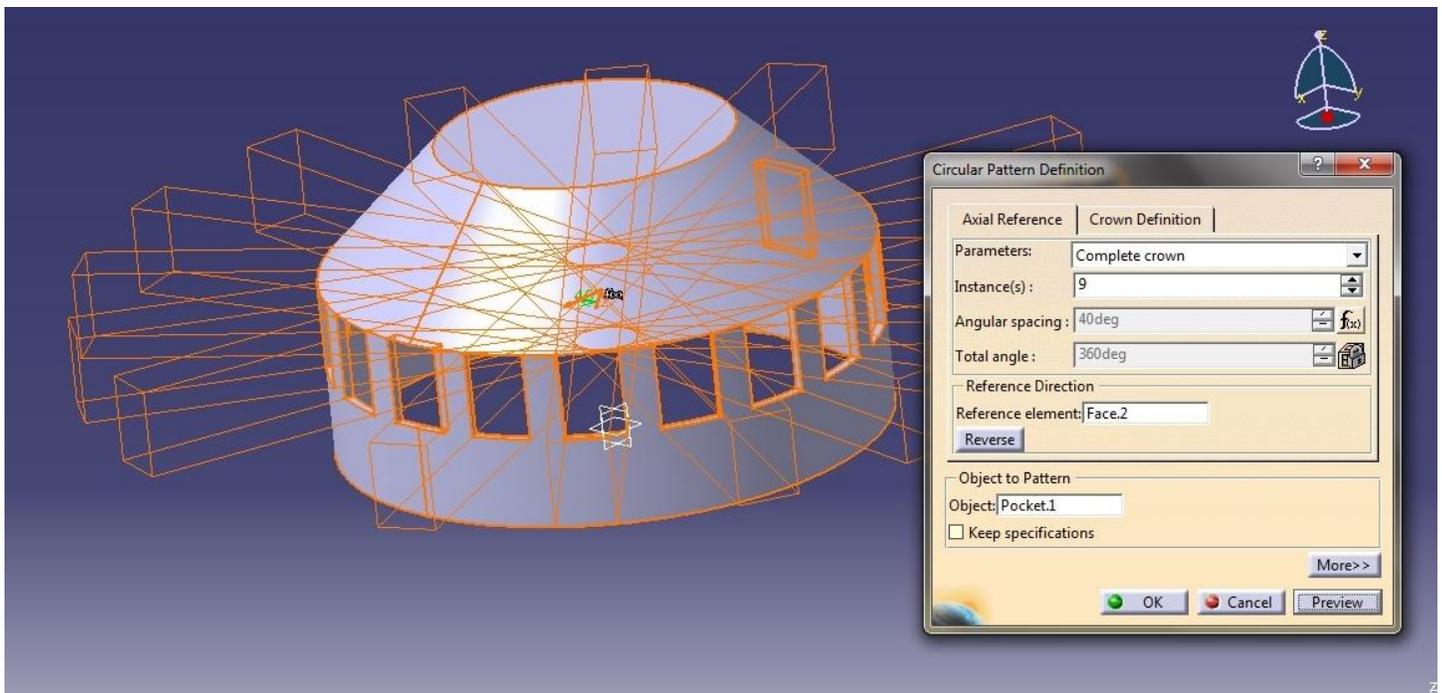
- ❖ After completion the diagram will seen as below.



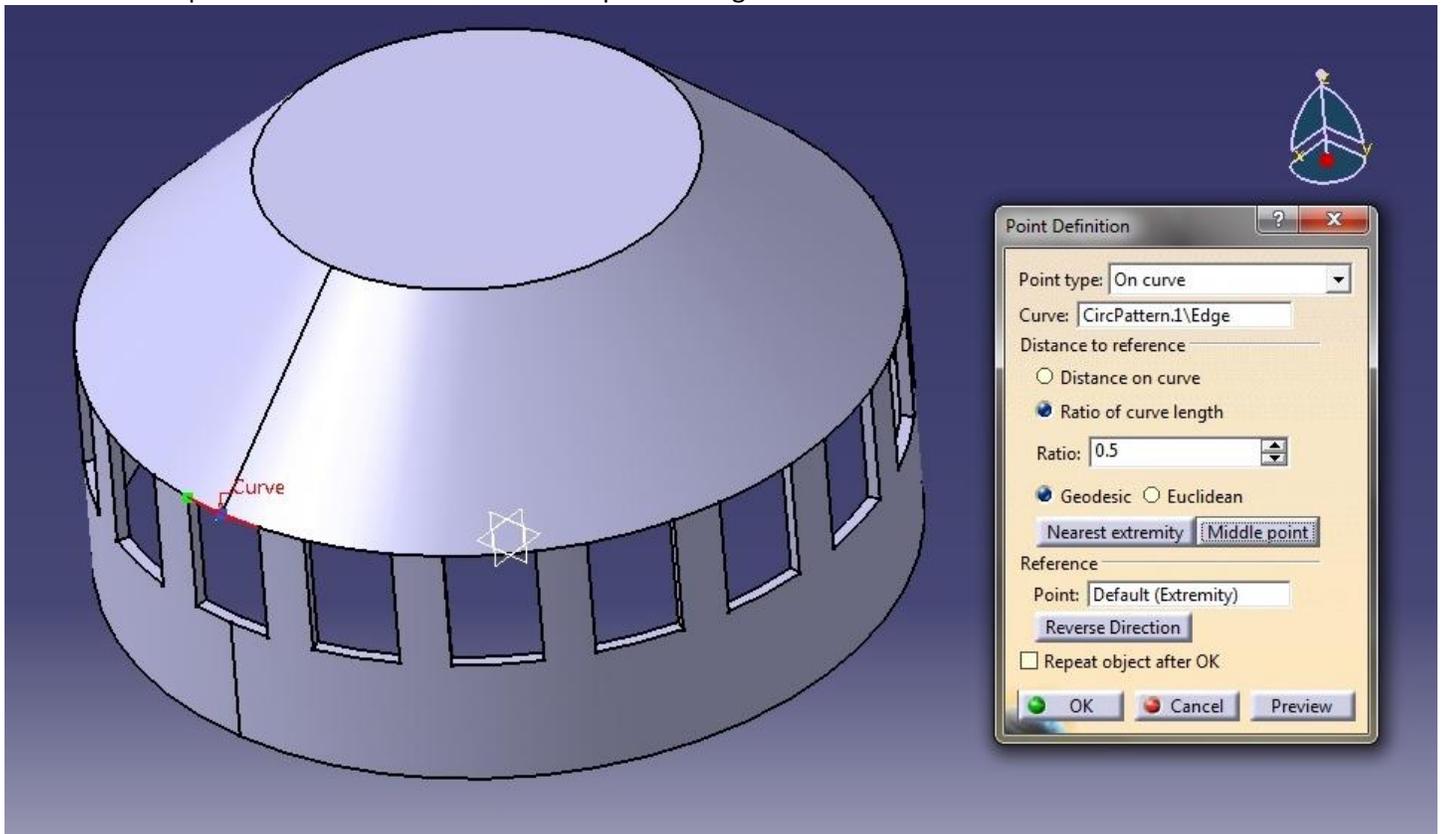
- ❖ Click the sketch and then select the pocket tool. Put depth 170mm.
- ❖ Click mirror extension and put ok.



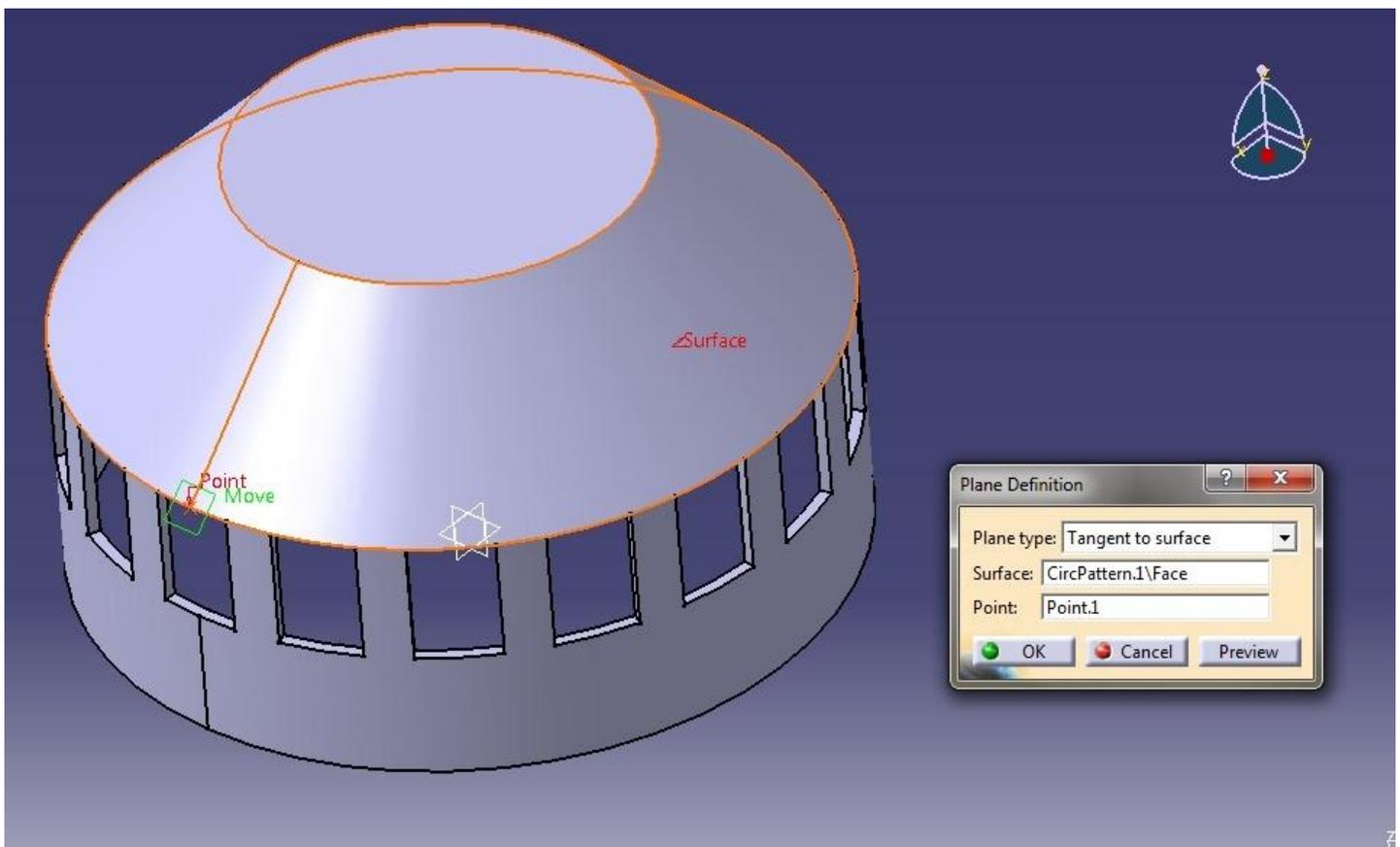
- ❖ After completion of the pocket, select the pocket from tree.
- ❖ Then pick the circular pattern from transformation features.
- ❖ Then give values as per diagram below.



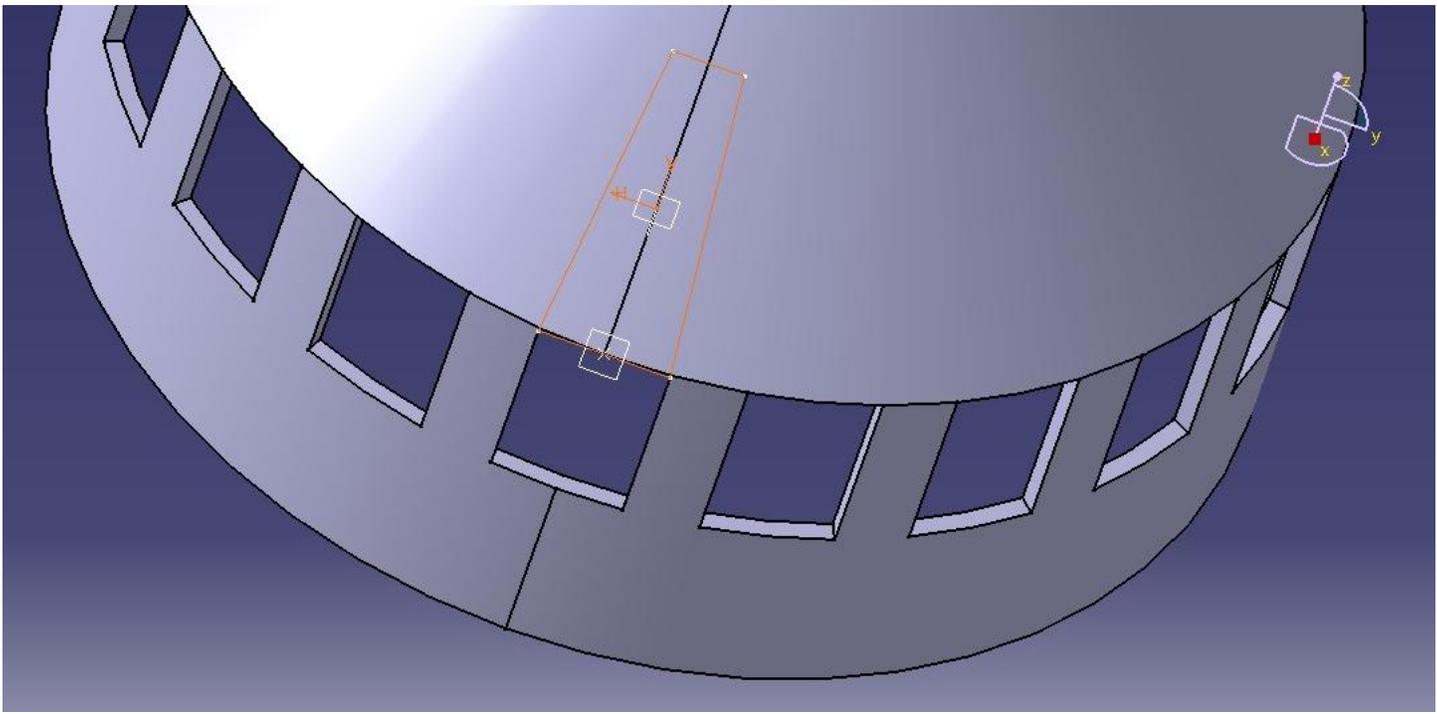
- ❖ Click the point from the reference element compact tool feature.
- ❖ Put the point in the middle of the curve as per the diagram below.



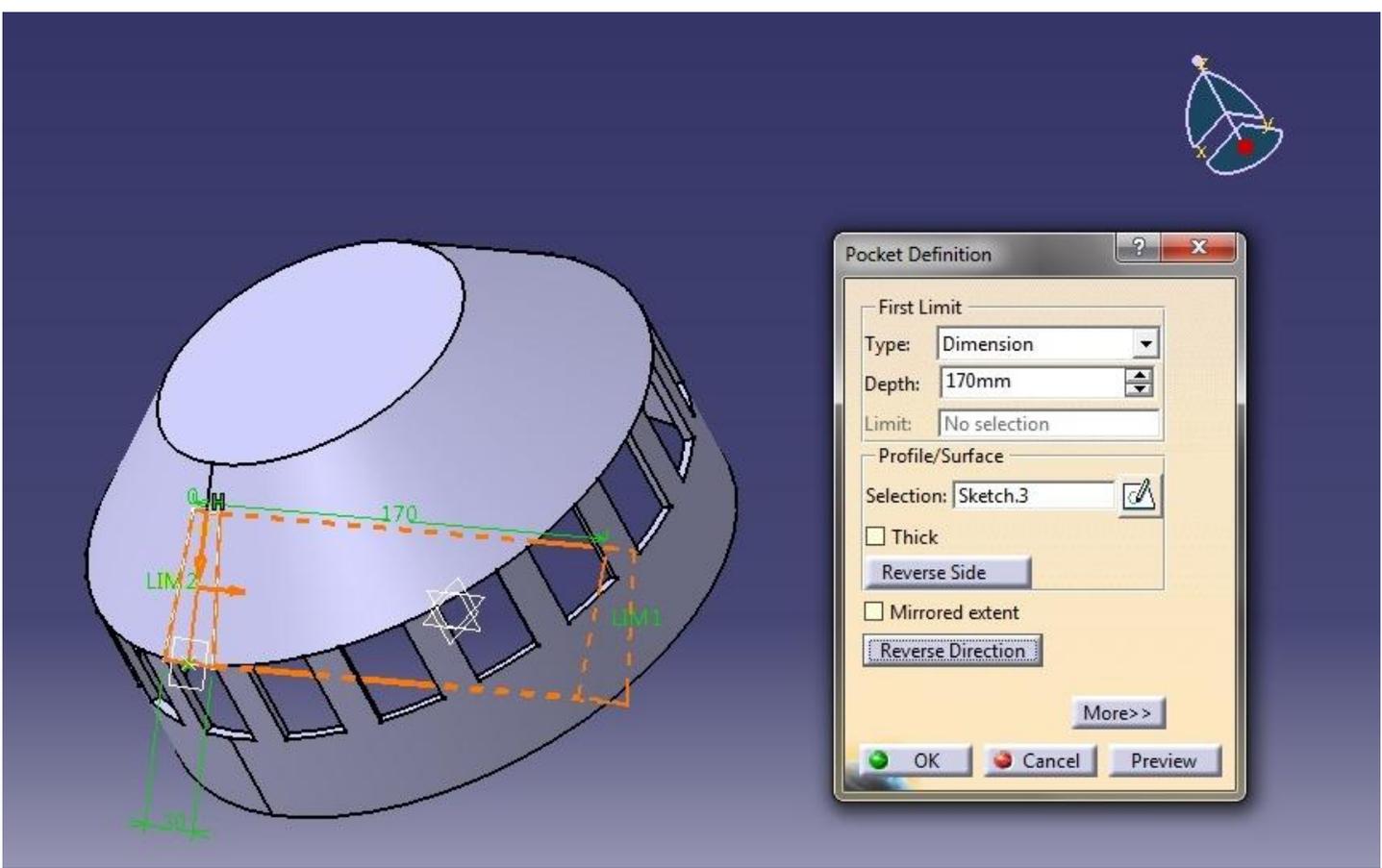
- ❖ Then select the plane from the reference element compact tool.
- ❖ Select the plane type tangent to surface.



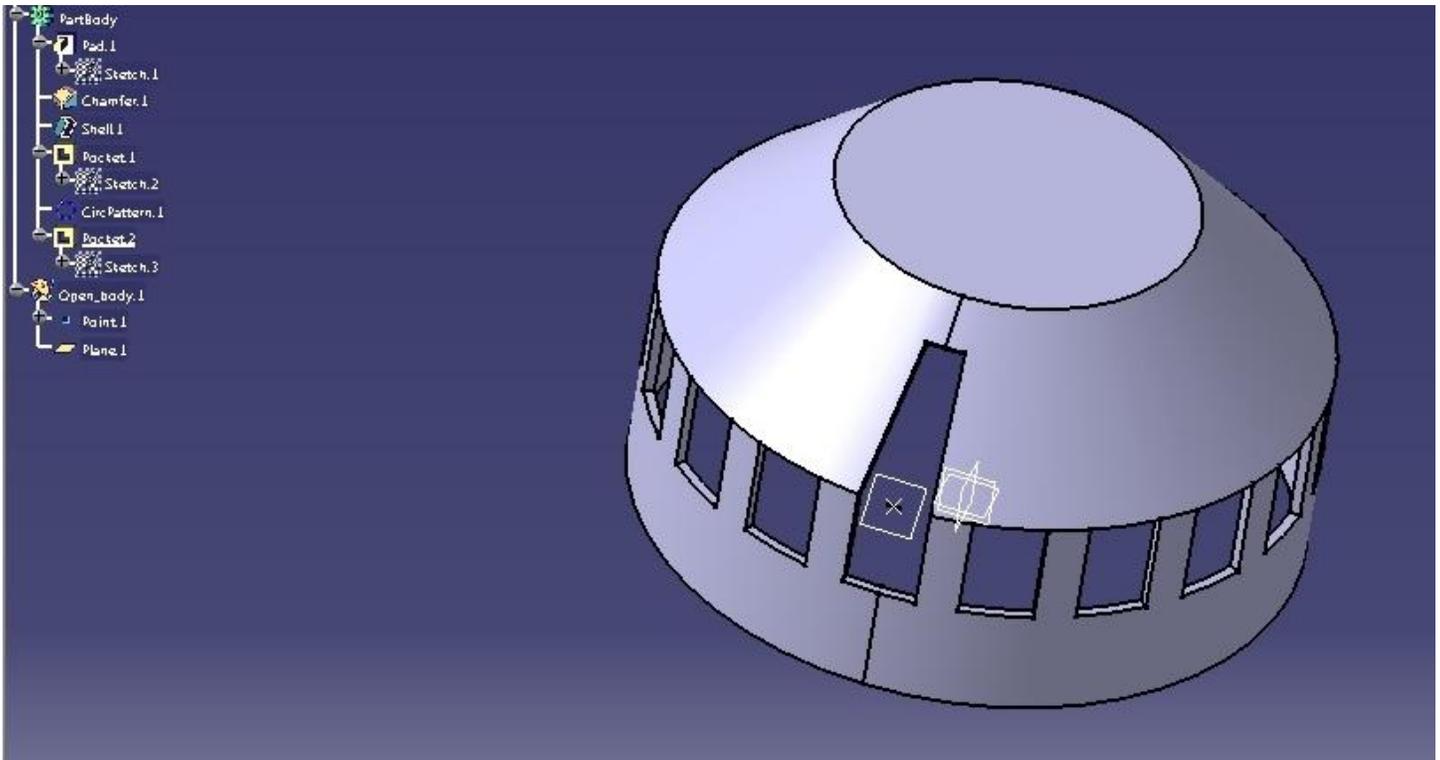
❖ Draw the taper diagram as below. Total height of the taper is 40.305mm. taper angle 14degree.



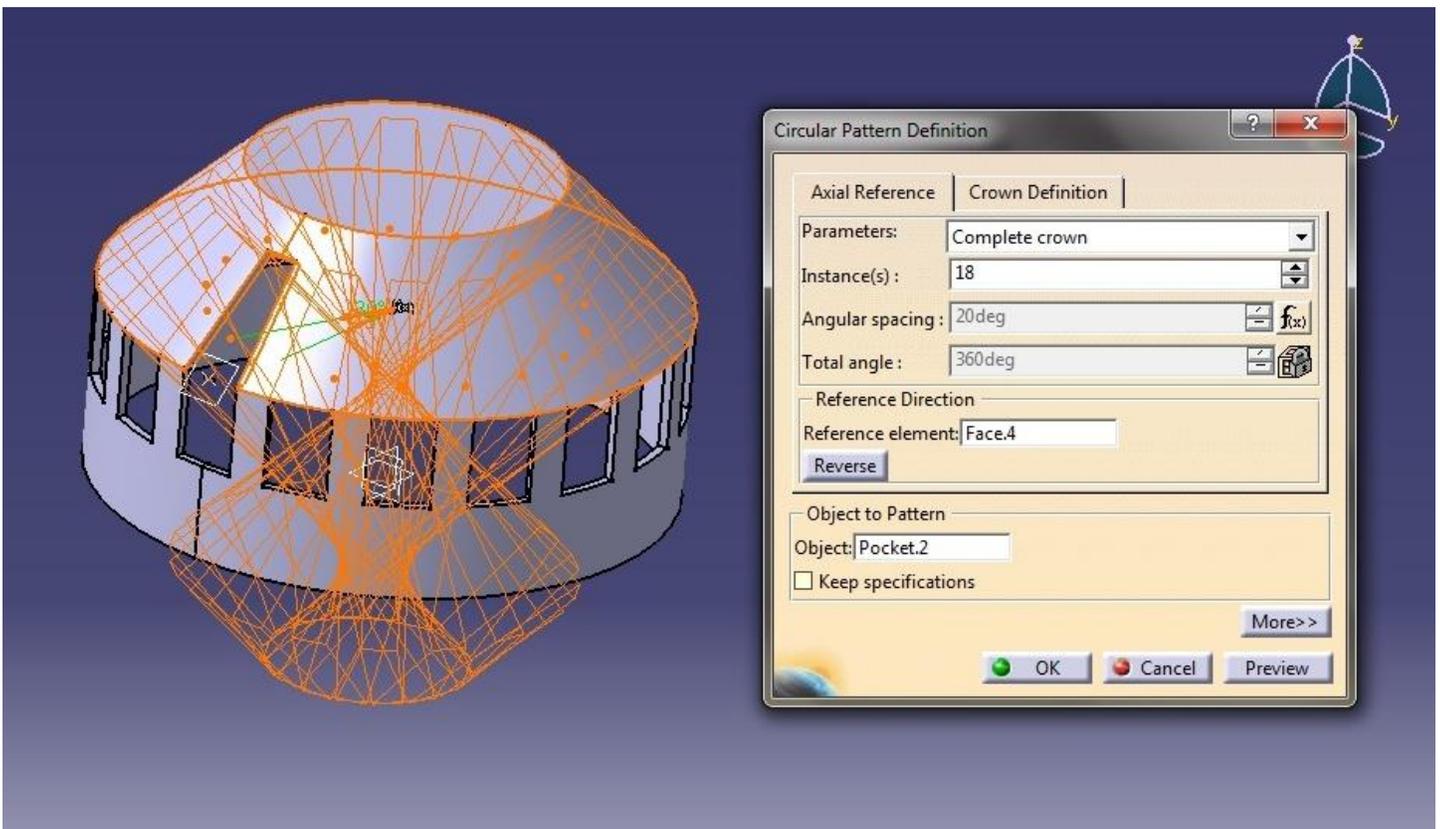
❖ Then pocket the sketch about any length should not below 20mm.



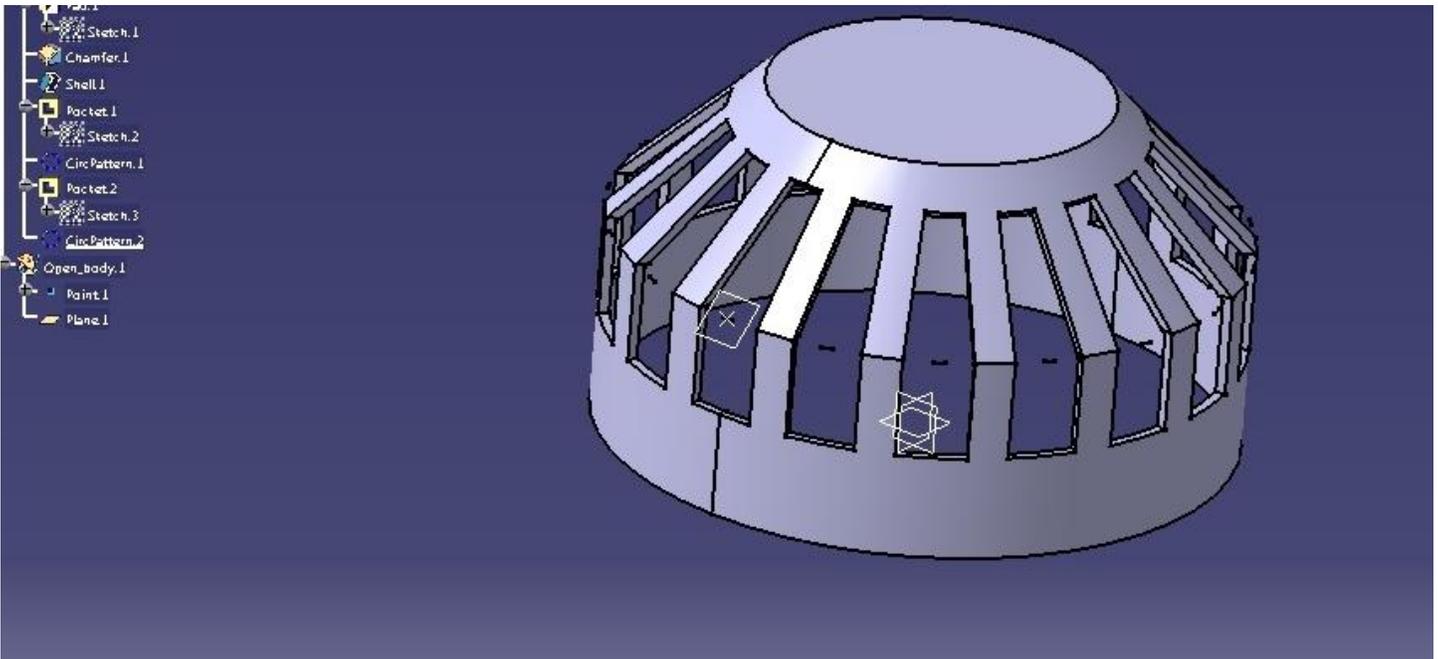
❖ After pocket the sketch diagram will seen as below.



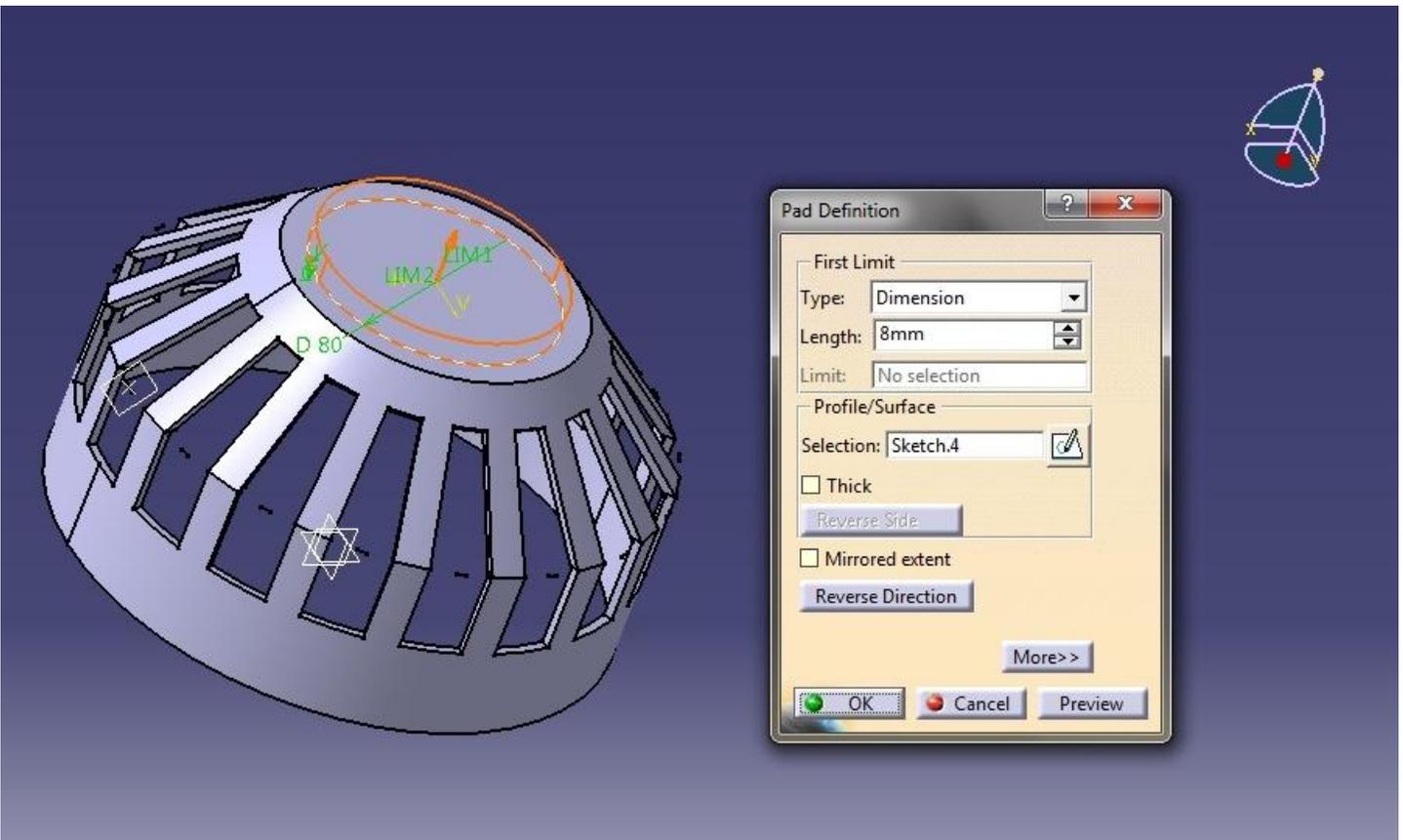
❖ Put circular pattern for the pocket recently drawn. Give instance as below.



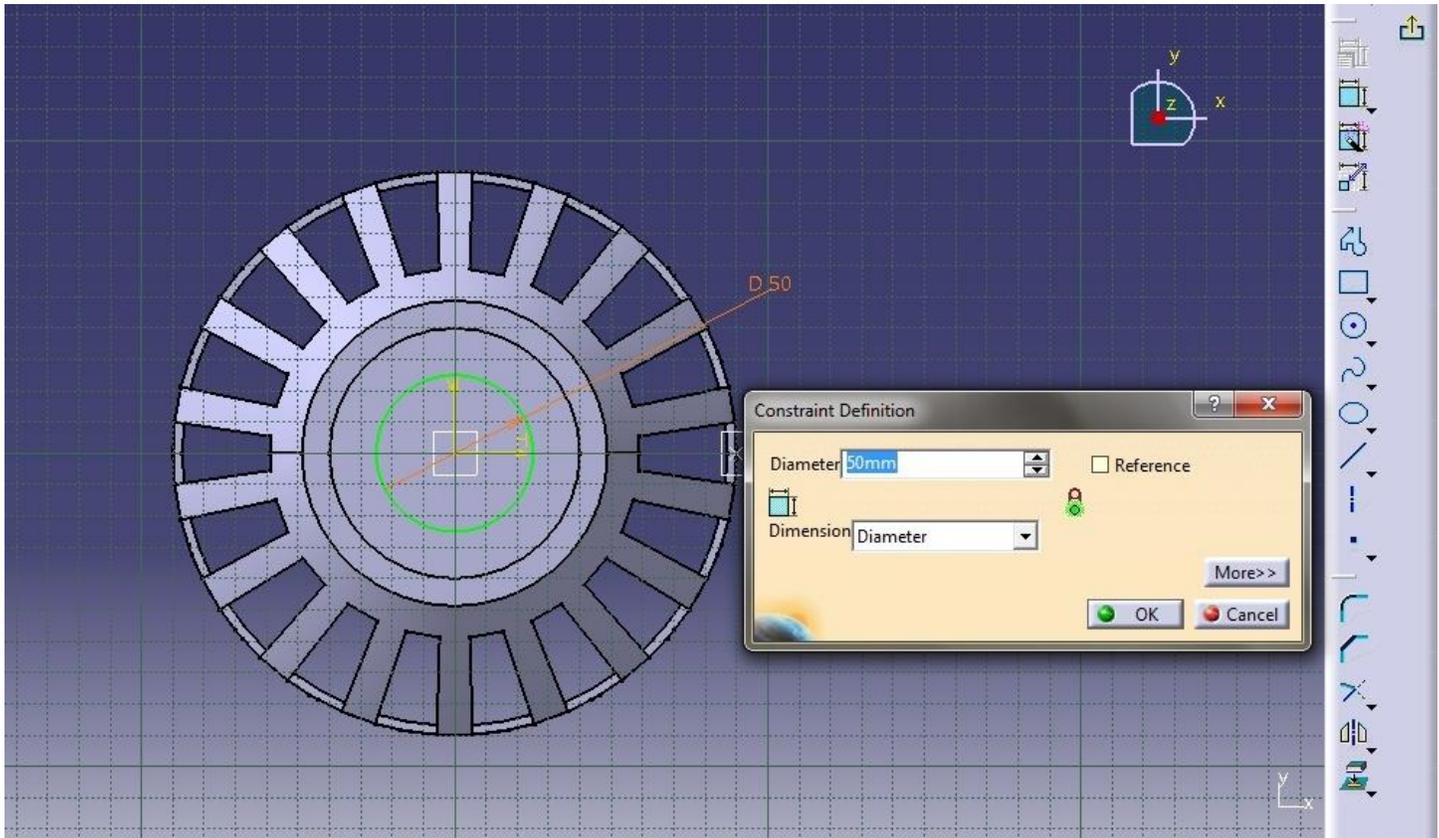
- ❖ After the circular pattern the diagram will seen like as below.



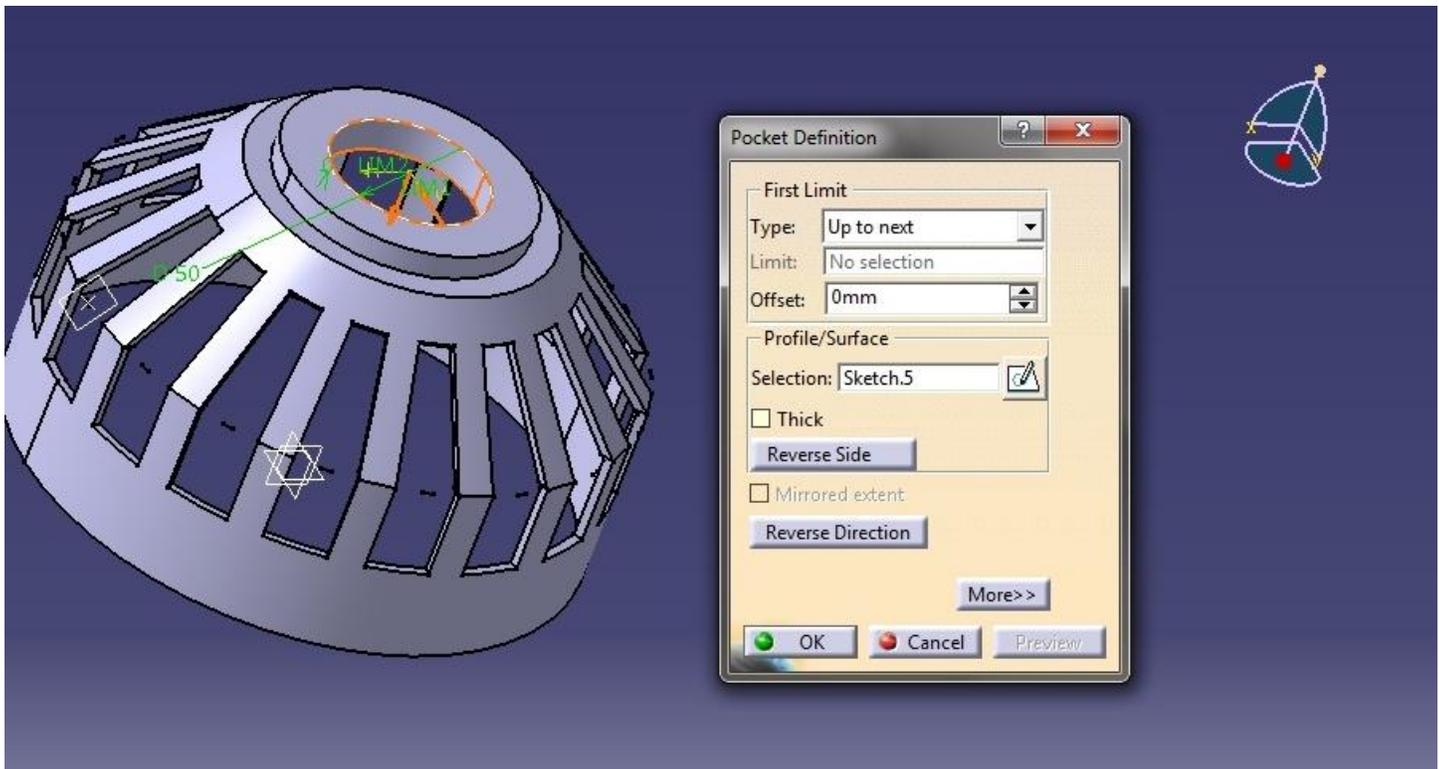
- ❖ Draw the circle diameter 80mm on the top of the drum.pad up to 8mm.



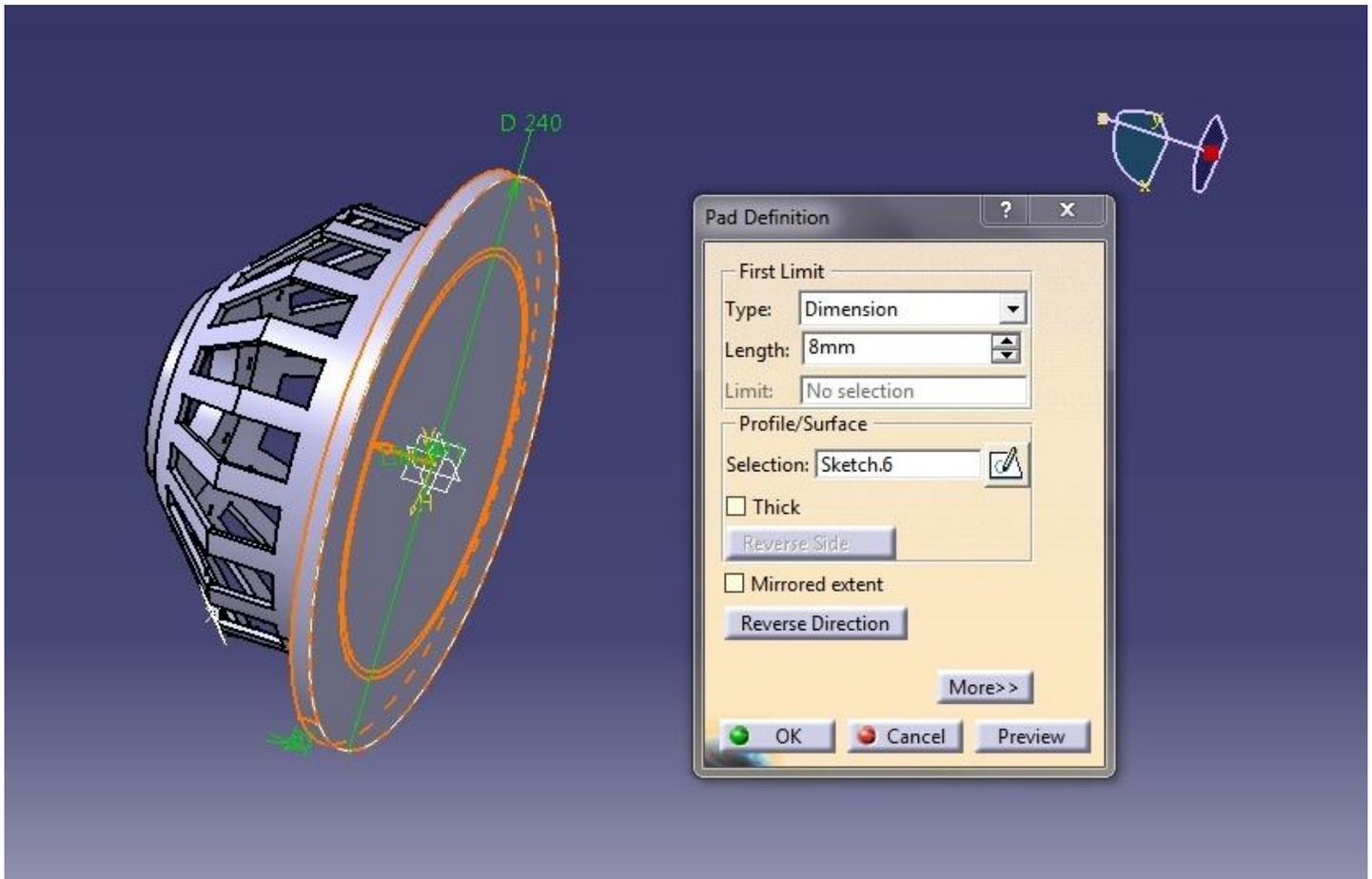
❖ Then draw the 50mm diameter circle again on the pad circle now drawn. Pocket this circle up to next.



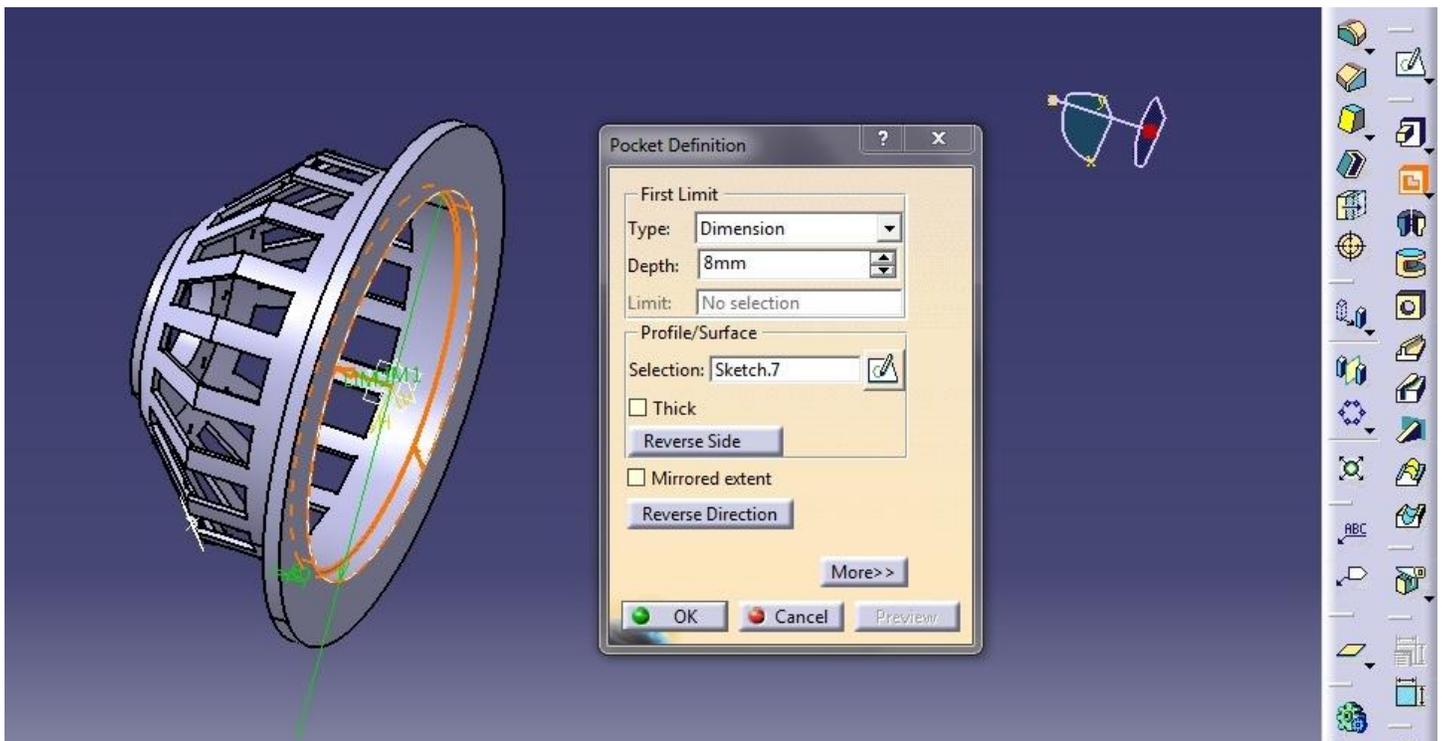
❖ After pocket the diagram will seen as below.



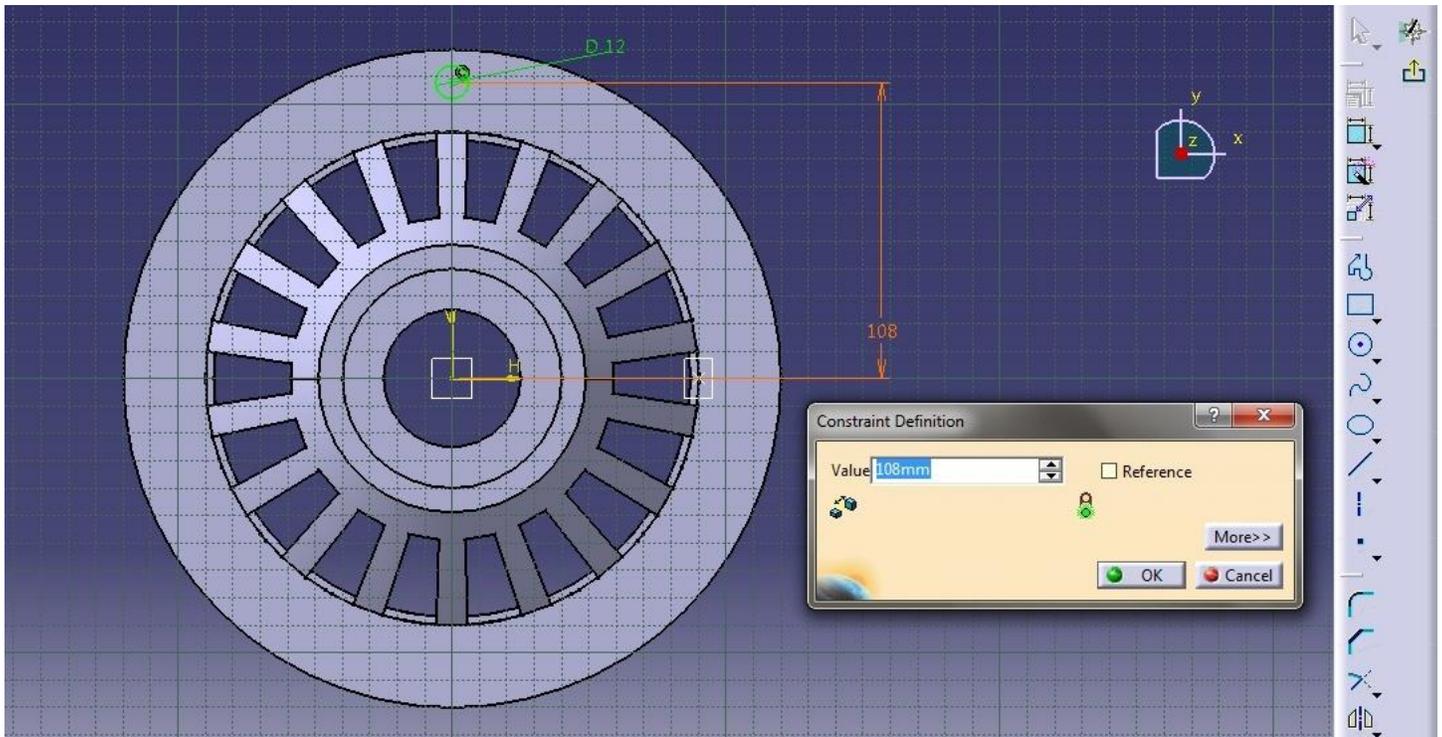
- ❖ Draw the 240mm diameter circle at the bottom of the object as below. Pad the circle up to the length 8mm.



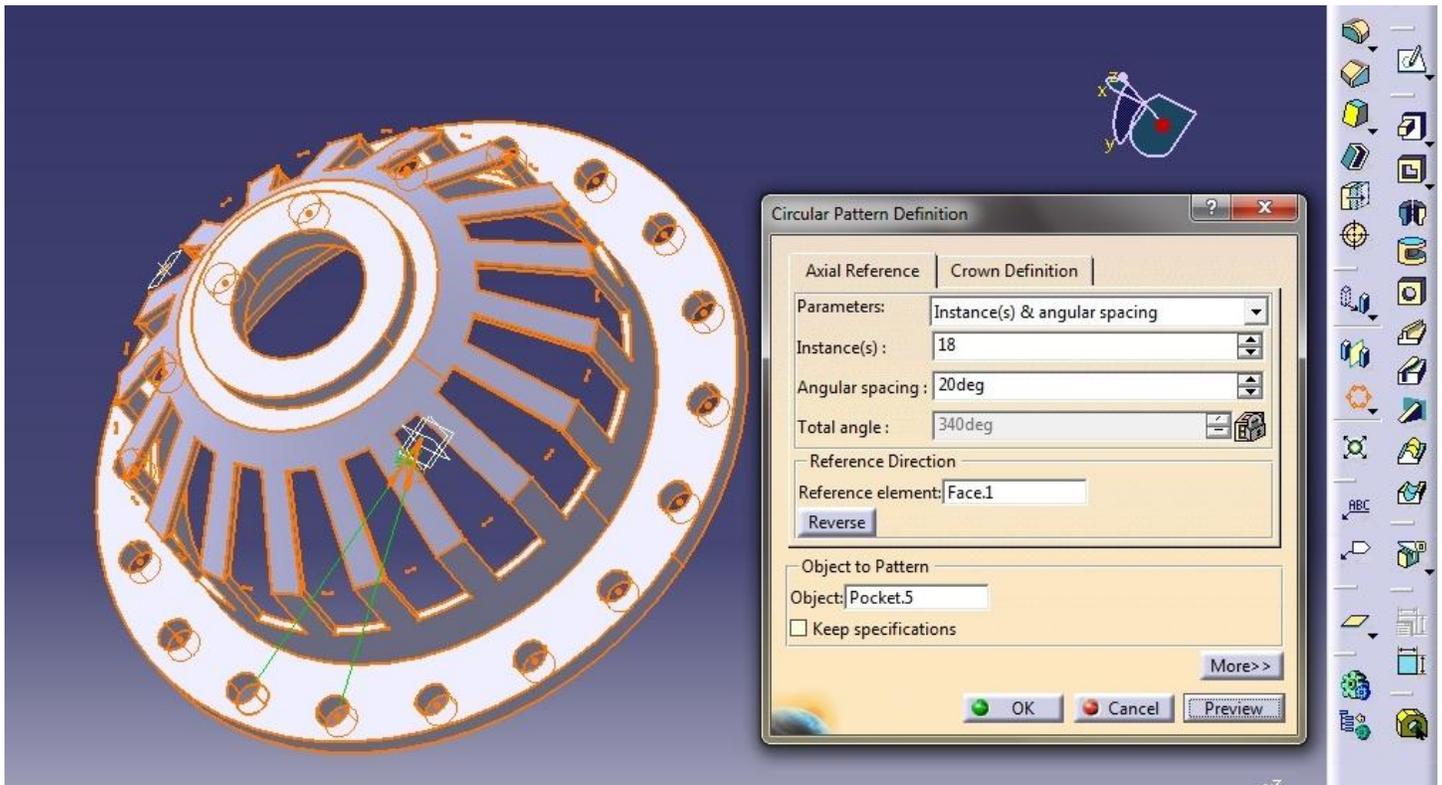
- ❖ Again draw the circle 180mm at the base pocket this about the depth 8mm.



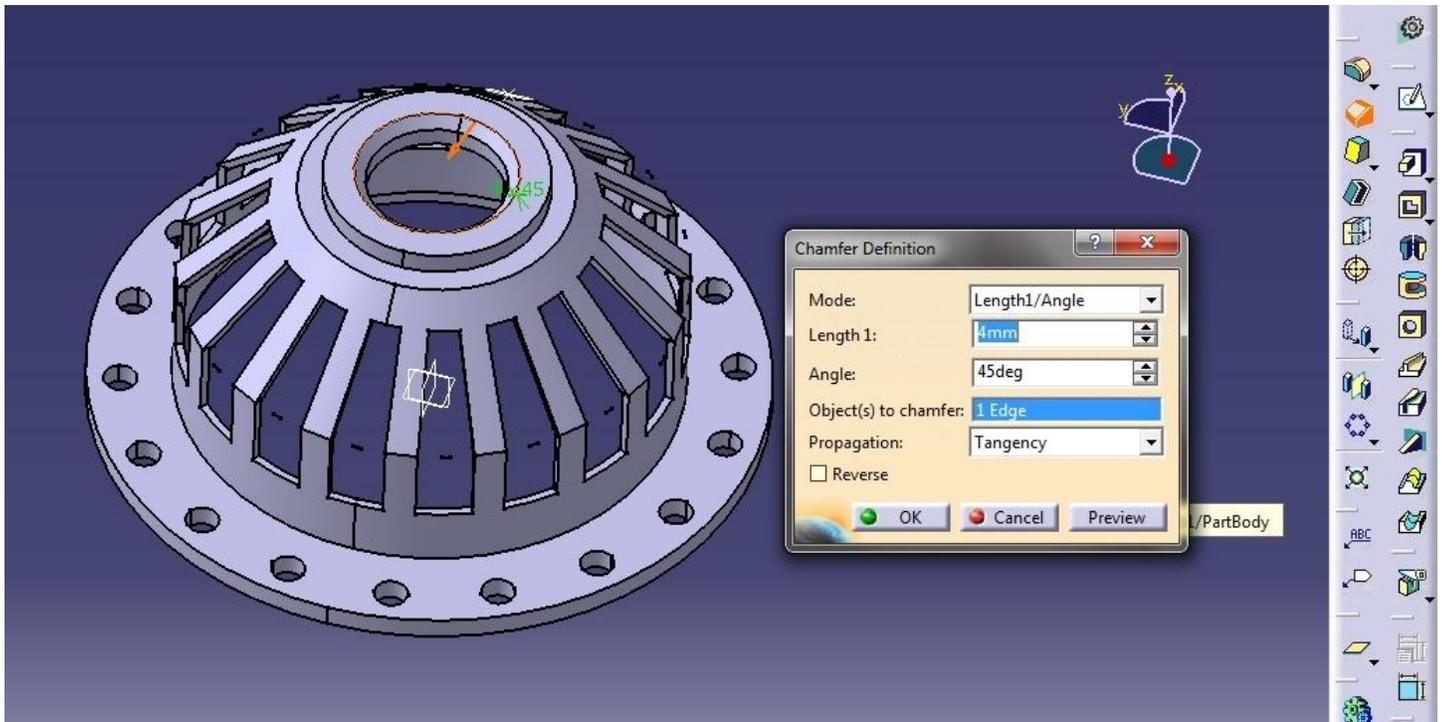
- ❖ Draw the circle at the diameter 12mm.with the centre distance 108mm.



- ❖ Put the circular pattern as below.



- ❖ Draw the chamfer in the diagram as per the given raw diagram detail.



- ❖ Put the fillet at the required portions...After completing the all works, the finished diagram will be seen as below.

