

# **Catia V5**

**Notiuni de Baza  
- generare suprafete -**



## **Generalitati**



## **Vizualizare obiecte**

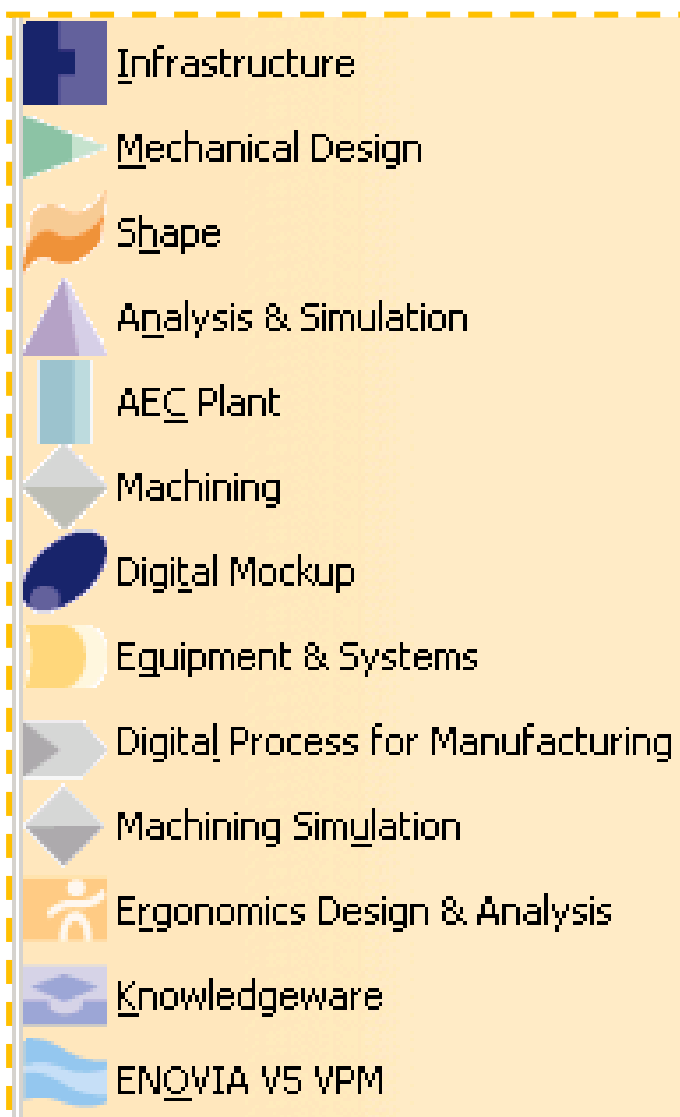


## **Generative Shape Design**

## Generalitati

### Computer Aided Three-dimensional Interactive Application

#### Atelierele de lucru in Catia V5



Infrastructura Catia V5

Creare schite

Creare solizi

Creare piese din table

Creare ansamblu de piese

Creare Plan 2D

Creare suprafete

Creare schite dupa fotografii

Reconstructie suprafete

Analiza structural

Arhitectura centralei

Program de conturare numerica

Sistem Electric, Conducte si HVAC

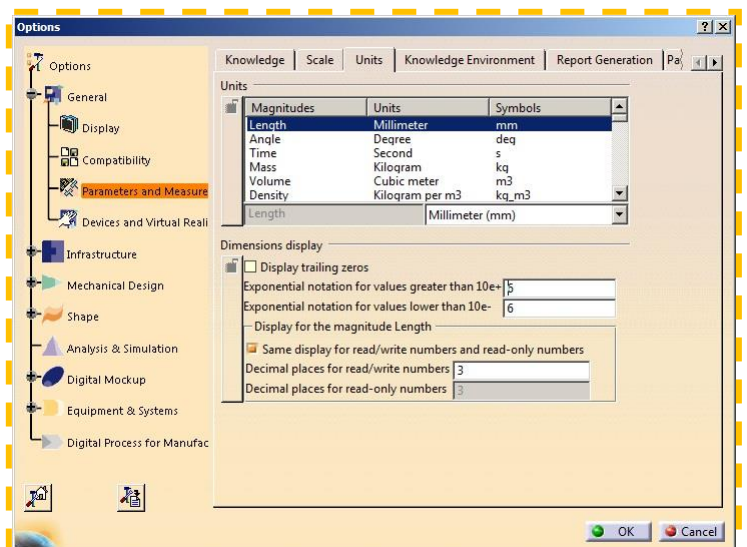
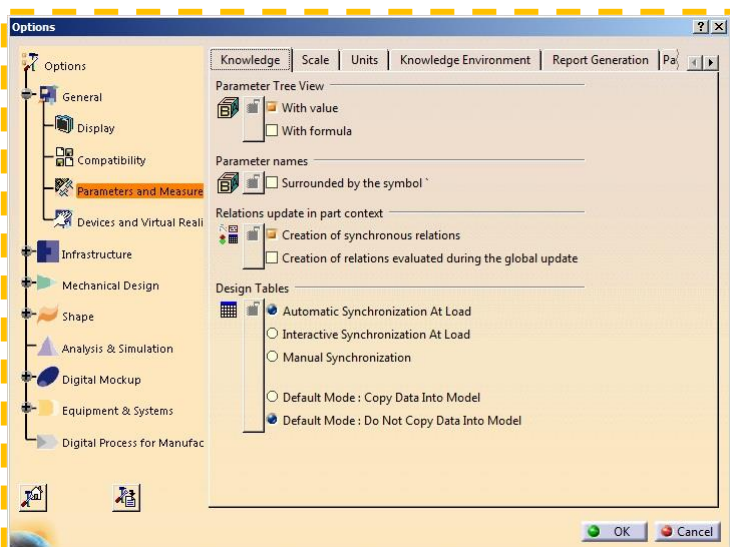
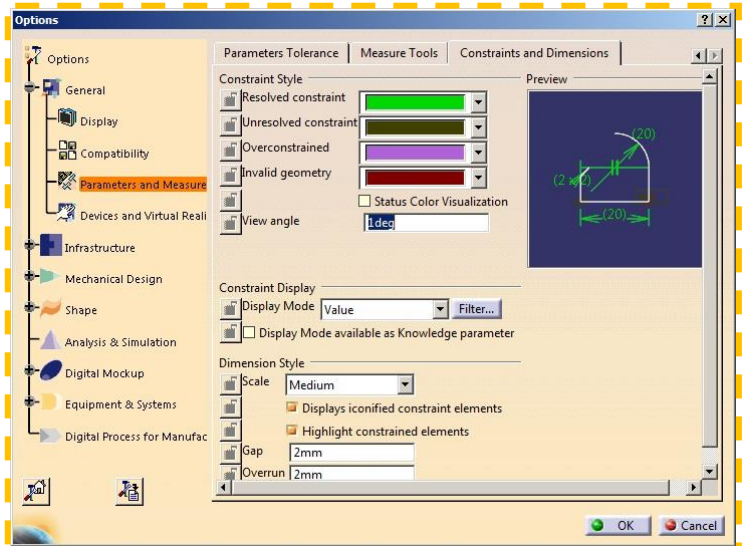
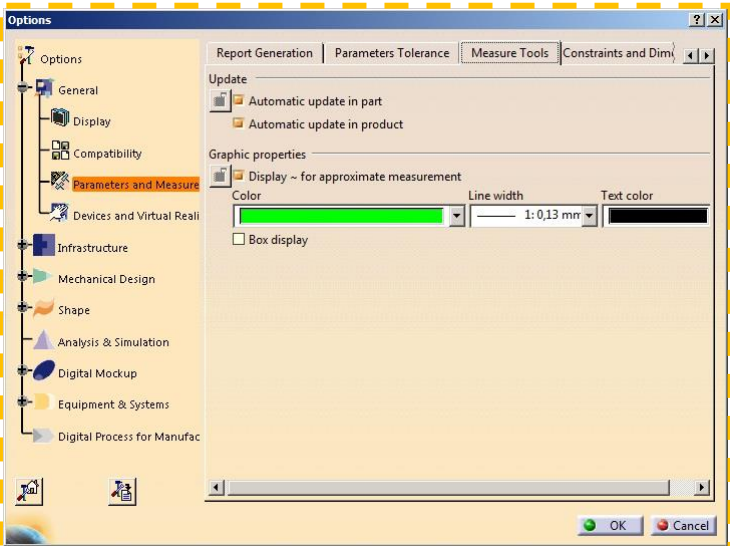
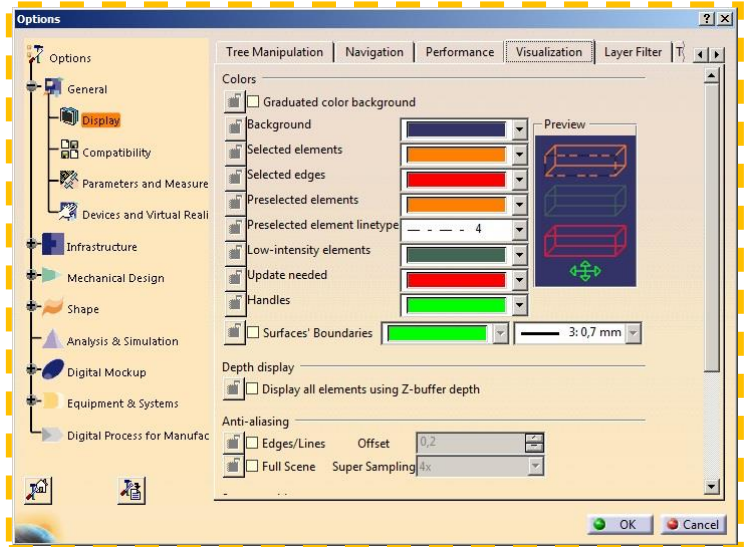
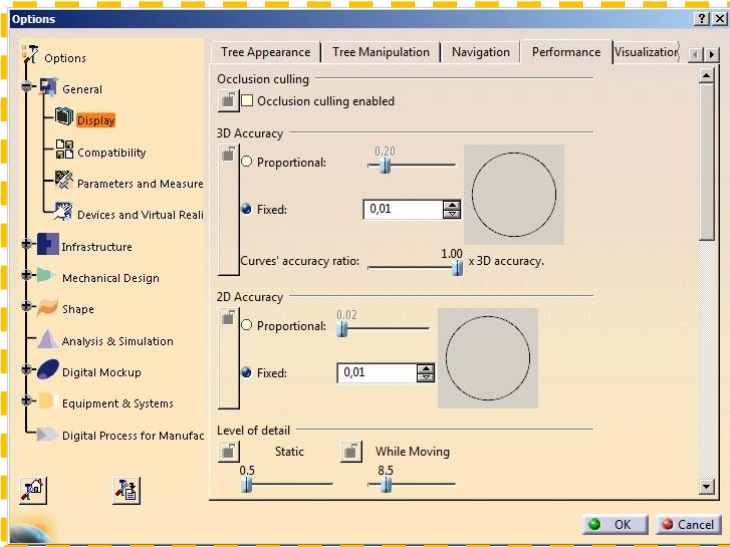
Program de conturare numerica

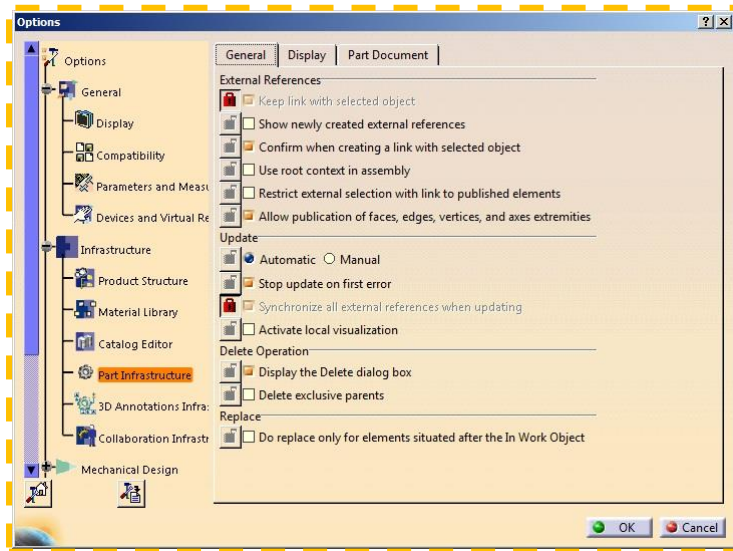
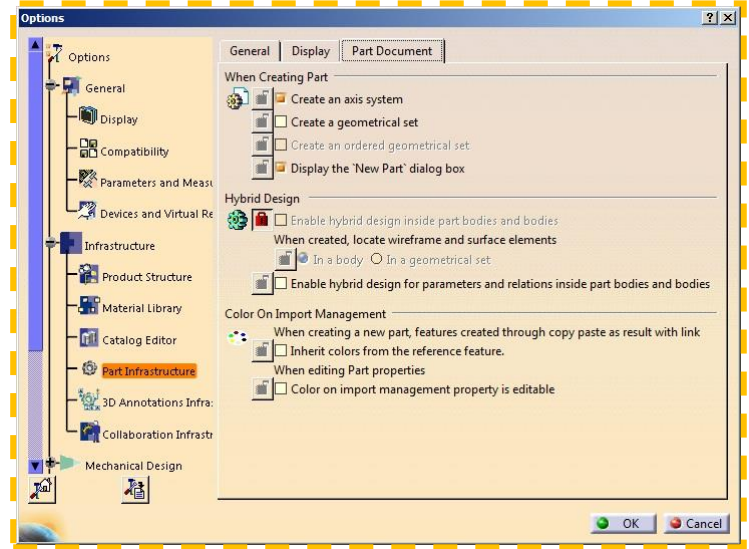
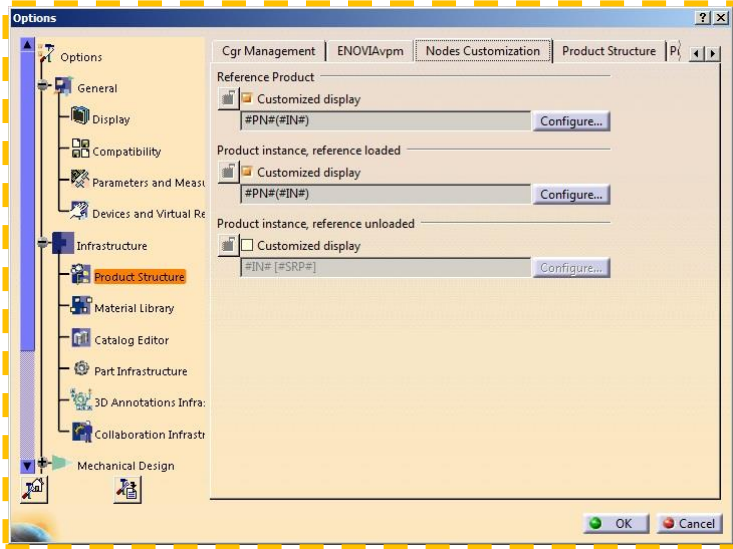
Analiza ergonomie , manechin

Utilizare parametri , formule

Conexiune Enovia (baza de date)

## Personalizare – setari generale Catia v5

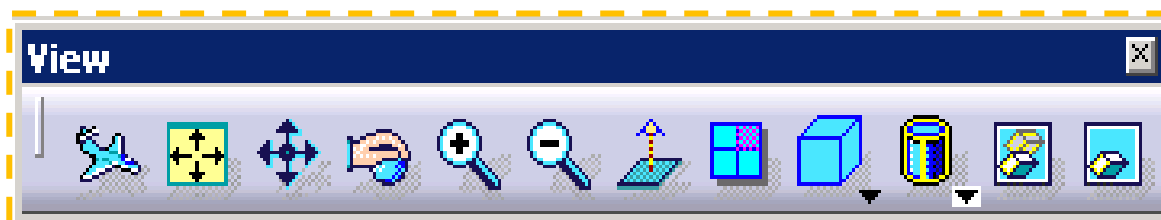




## Vizualizarea obiectelor



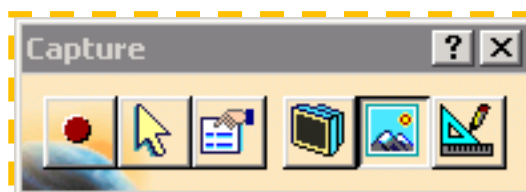
Fisier nou, Deschide fisier existent, Salveaza, Imprimanta, (Cut,Copy,Paste,Undo,Redo) , Info Functie



Fly Mode, Translatie, Centreaza, Rotatie, Zoom +, Zoom -, Vedere normala, Multi View, Quick View, View Mode, Afiseaza/Ascunde, Schimba spatiul vizibil/invizibil



aplica : Culoare, Transaparenta, Grosime Linie, Tip Linie, Tip punct, Randare , Layer , Copiaza proprietati, Asistent Proprietati grafice



Captura Imagine, Zona captura, Proprietati Captura, Captura Ecran, Captura in mod Pixel, Captura in Mod Vectorial



Masoara intre doua elemente, Masoara un element, Masoara Intertia

## Funcțiile și manipularea mouse-ului în Catia v5



Buton 1 – Buton Principal : Selectie element sau Executie Comanda

Buton 2 – Buton Secundar : Meniu Contextual

Buton 3 – Buton auxiliar : Zoom +, Zoom –

Buton 3 + Buton 2 + Translatie = zoom +/- in 3D

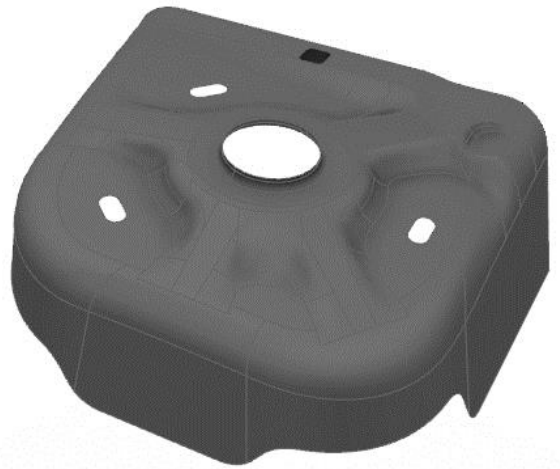
Buton 3 + Buton 2 + Rotatie = rotatie in 3D

Buton 3 + Translatie = Translatie in 3D

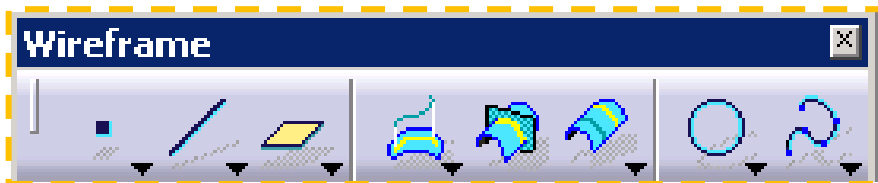
Tasta CTRL + Rotire Buton 3 = zoom +/- in arborescenta

# Crearea obiectelor

## Atelierul Generative Shape Design



### Wireframe

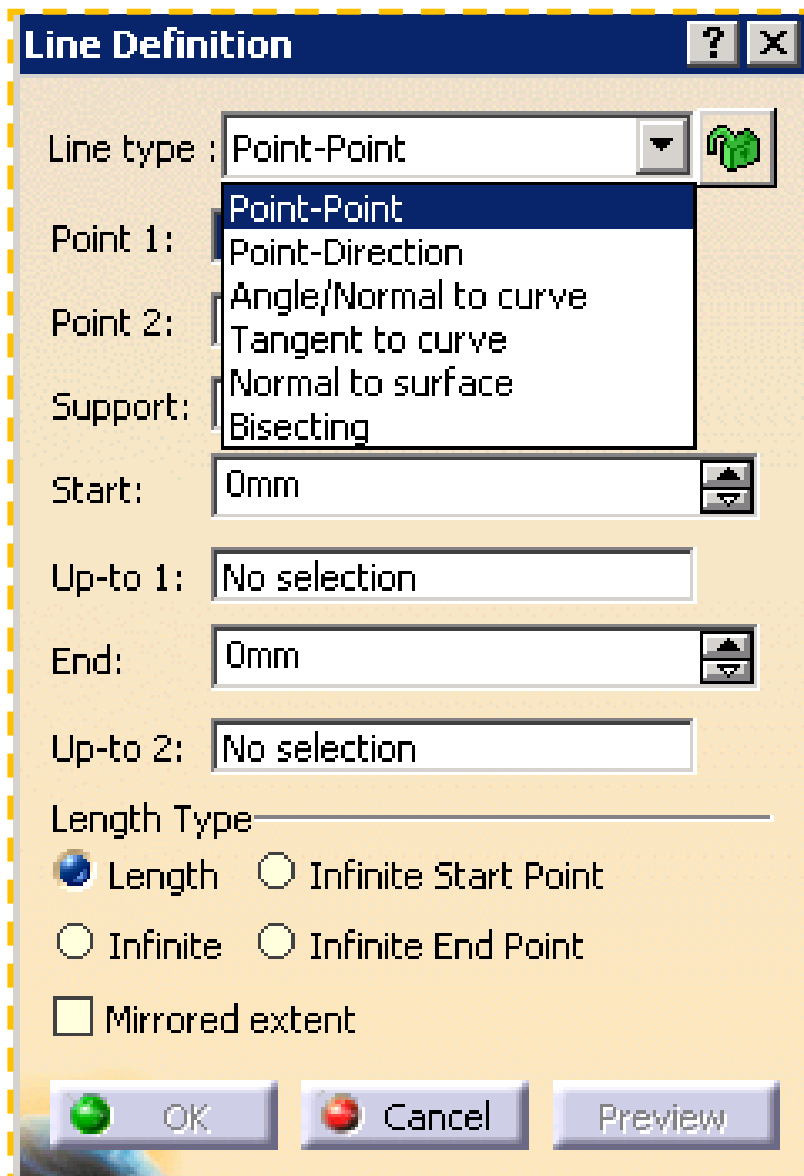
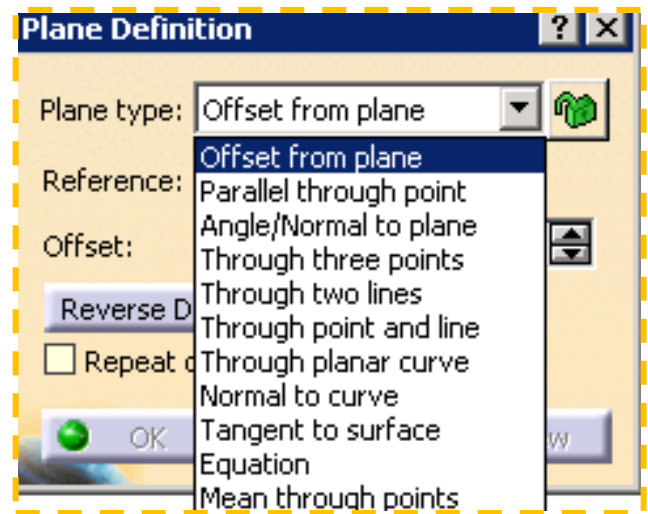
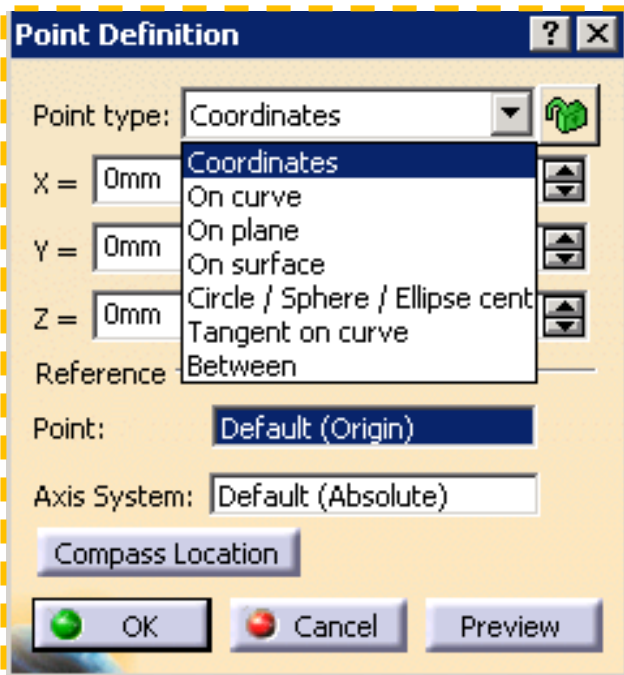


Point, Line, Plane,  
Projection, Intersect, Parallel Curve,



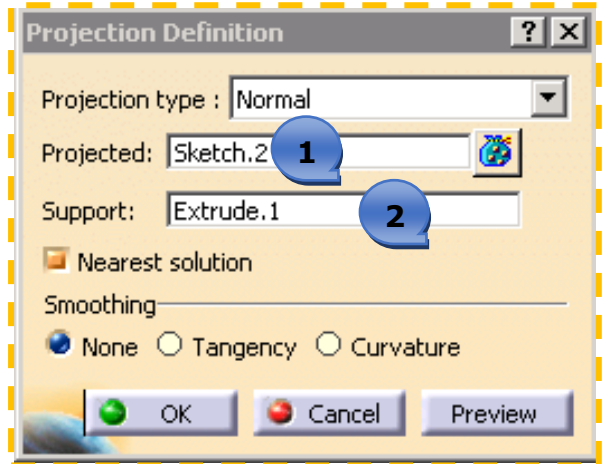
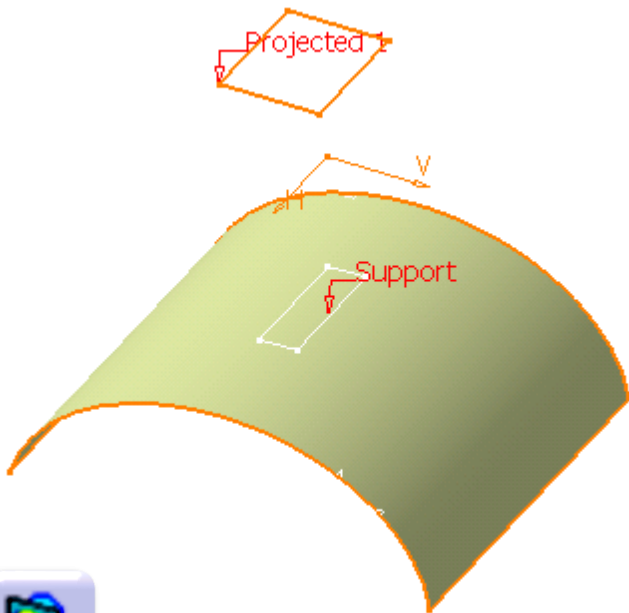
Circle-Corner-Connect-Conic  
Spline-Helix-Spiral

**Elemente de referinta – punct, linie , plan**

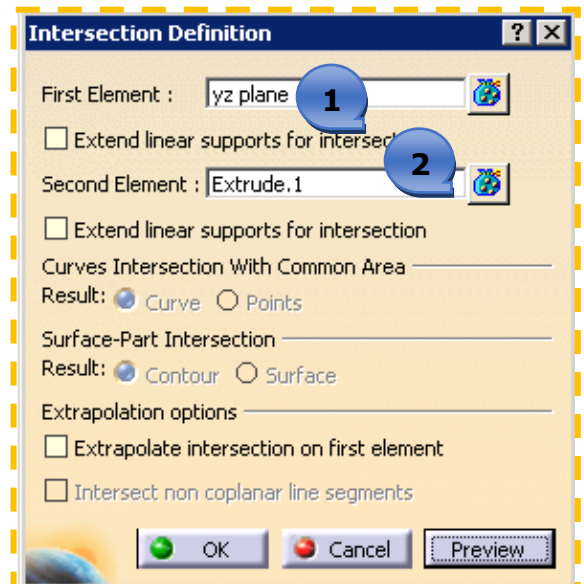
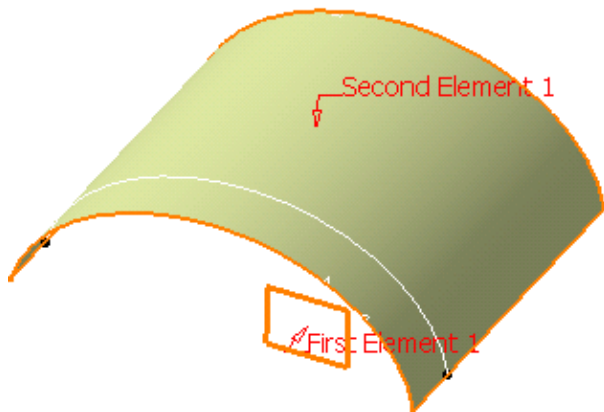




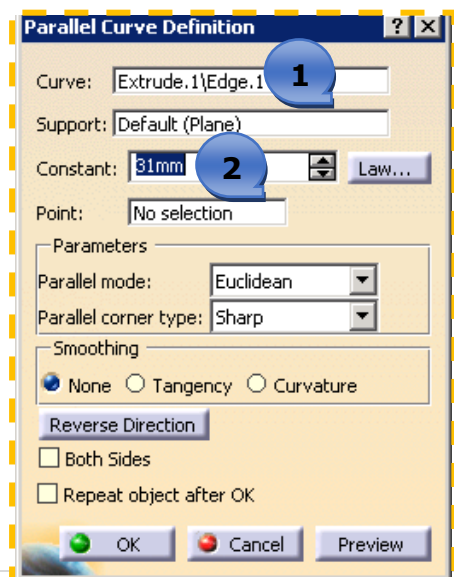
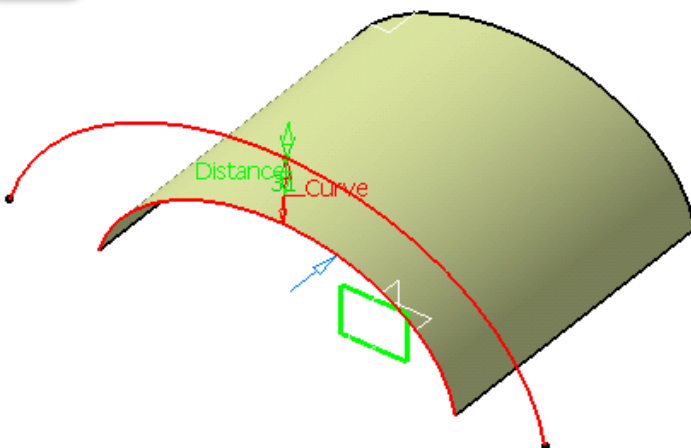
**Projection**



**Intersection**

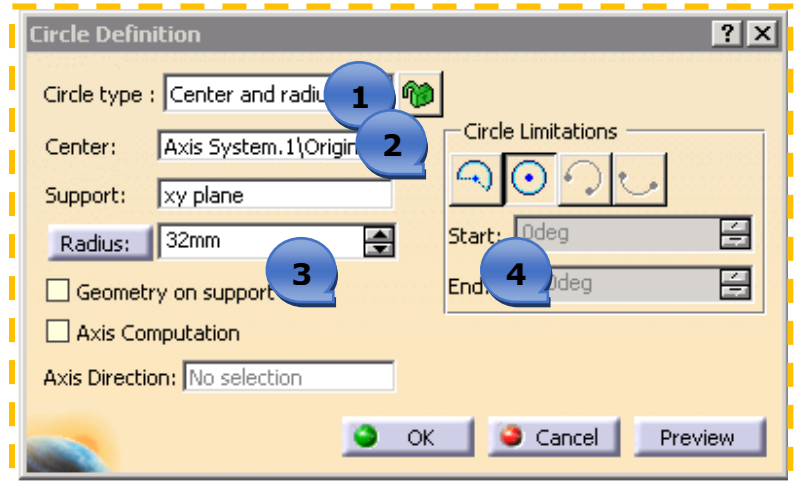
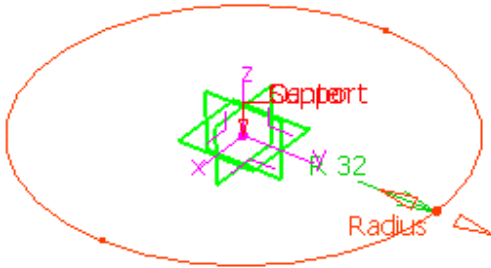


**Parallel Curve**

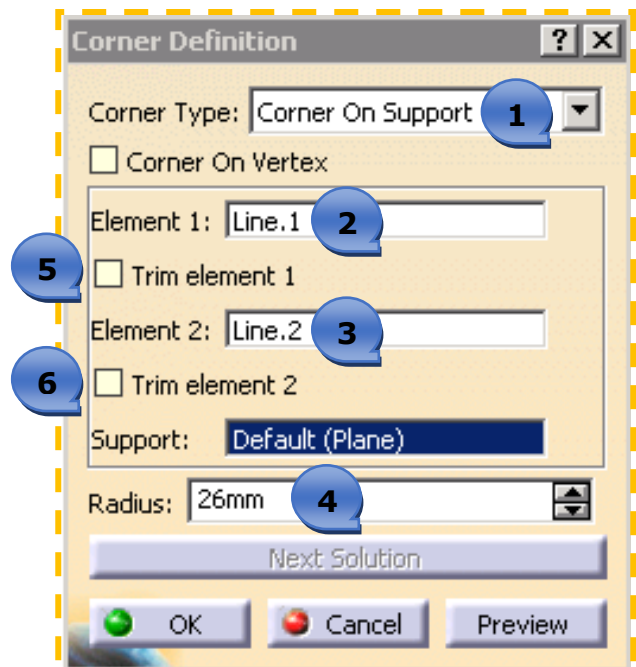
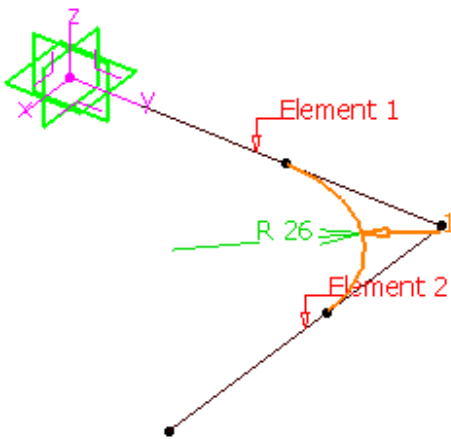




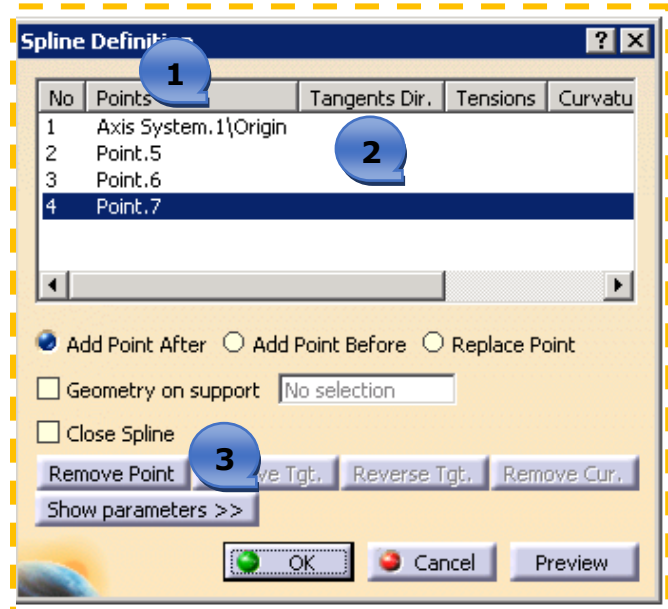
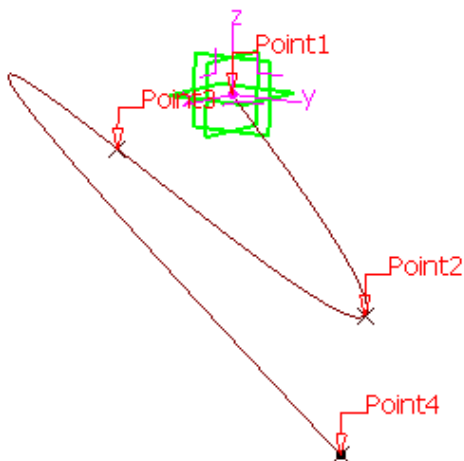
Circle



Corner

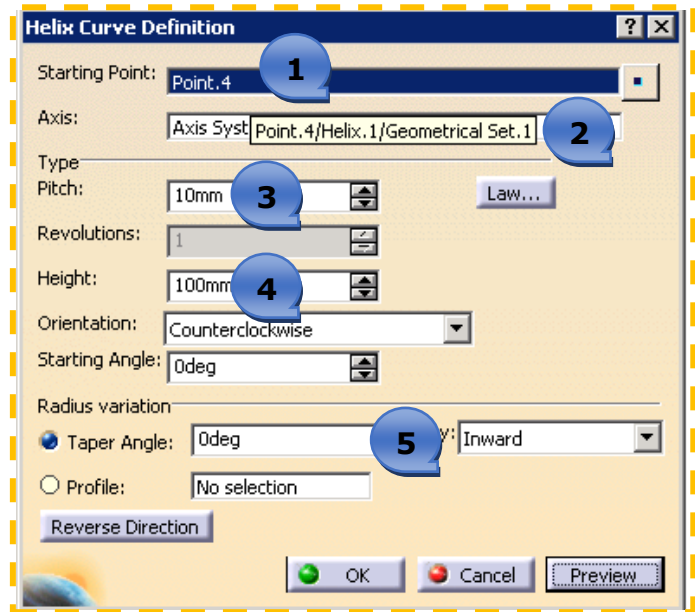
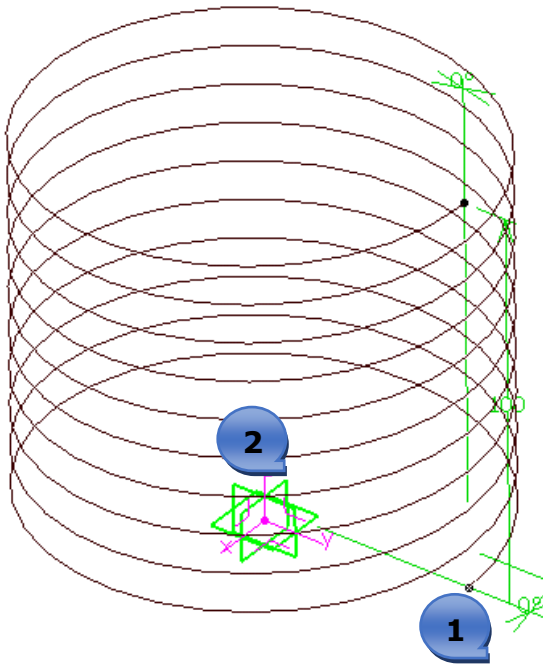


Spline





**Helix**



**Suprafetele de baza**



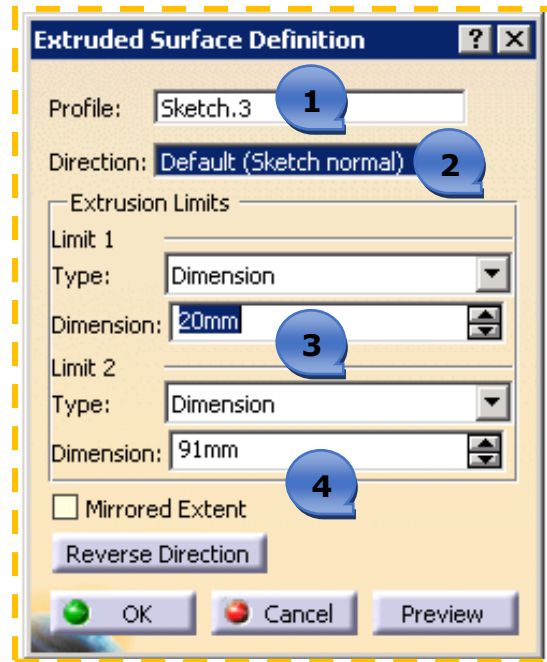
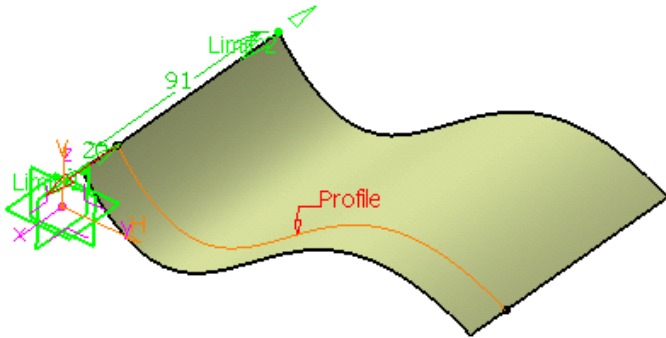
Extrude, Offset, Sweep, Fill, Multisection Surface, Blend



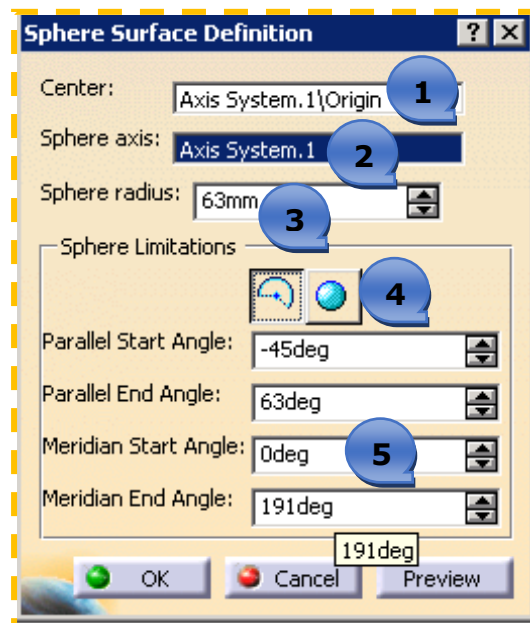
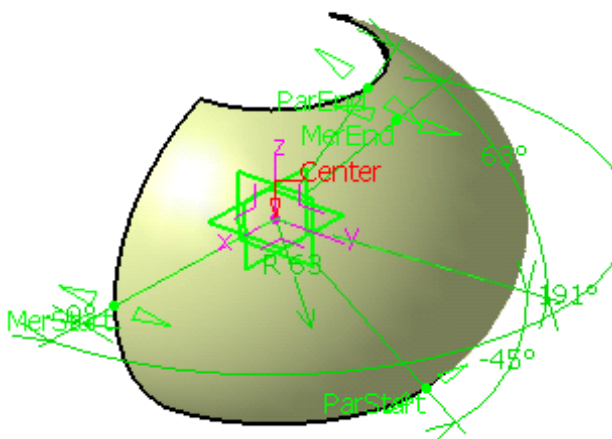
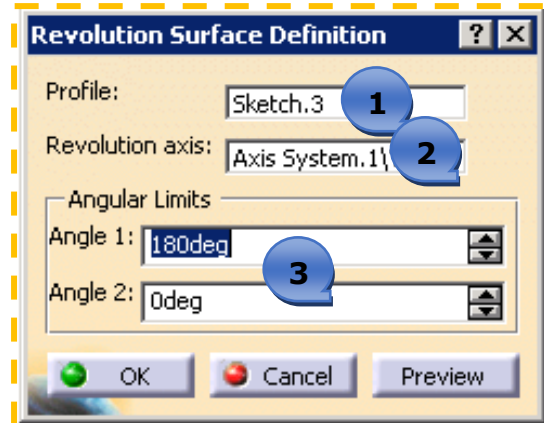
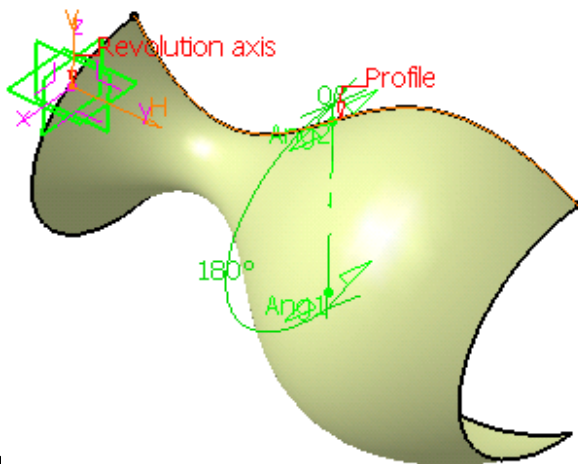
Extrude, Revolve, Sphere, Cilinder



**Extrude**

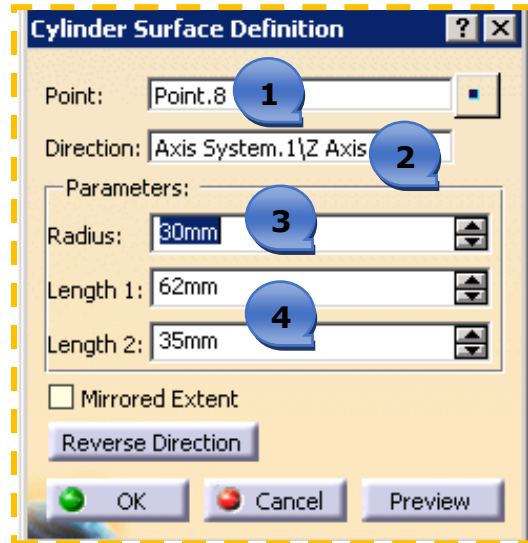
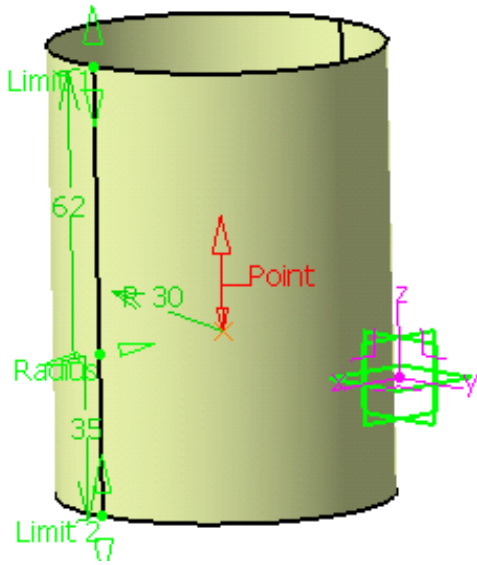


**Revolve**

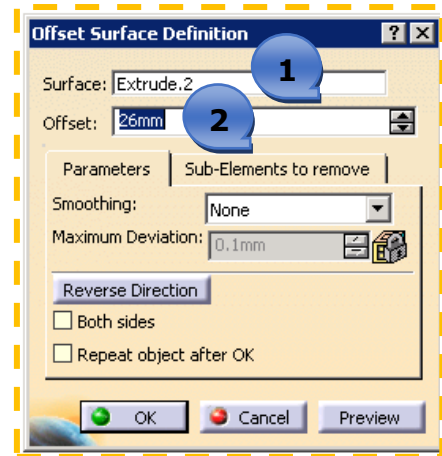
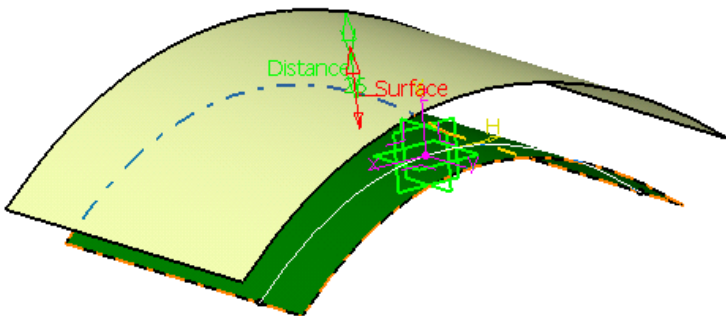




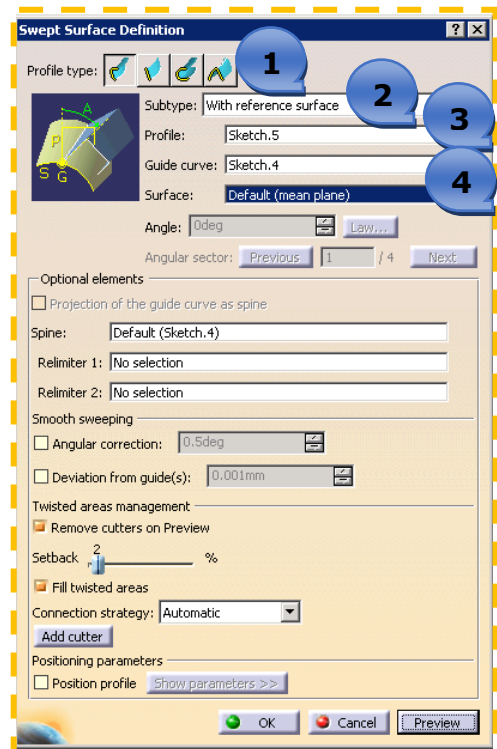
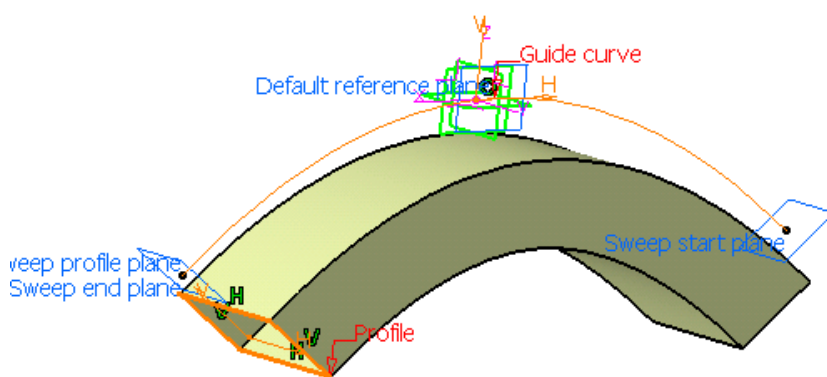
**Cylinder**



**Offset**

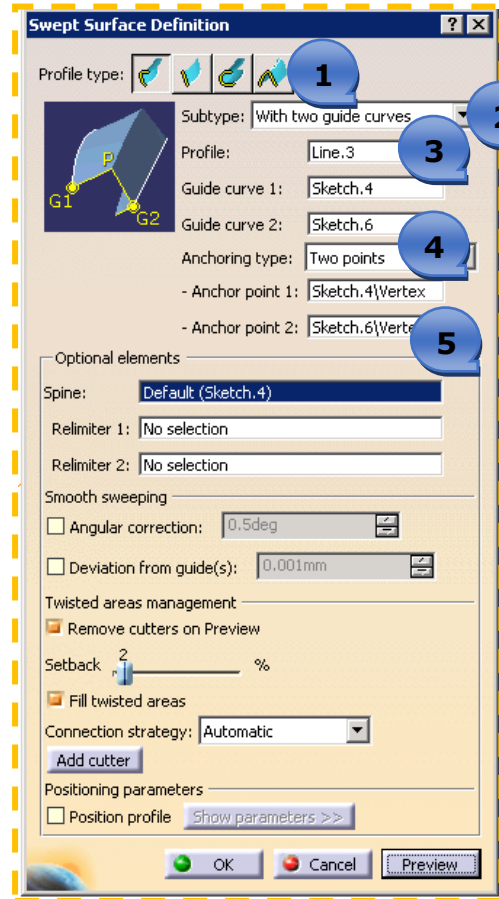
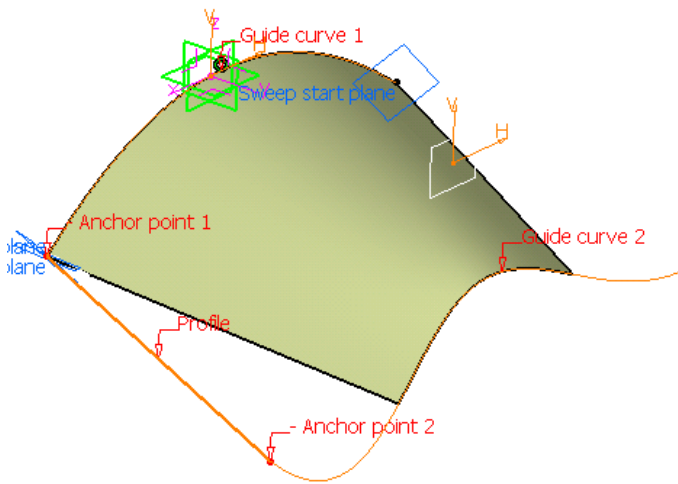


**Sweep – 1 profil pe 1 curva de ghid**



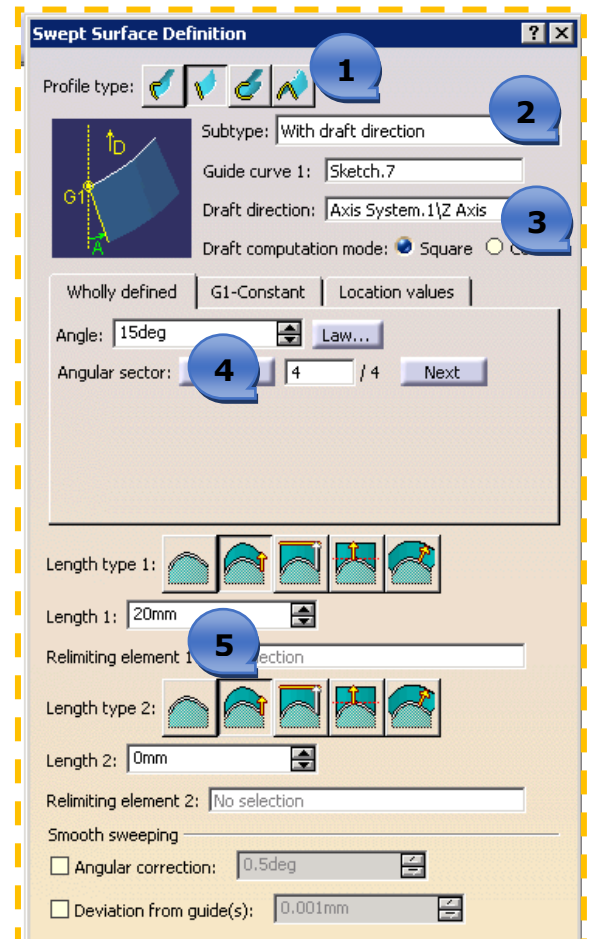
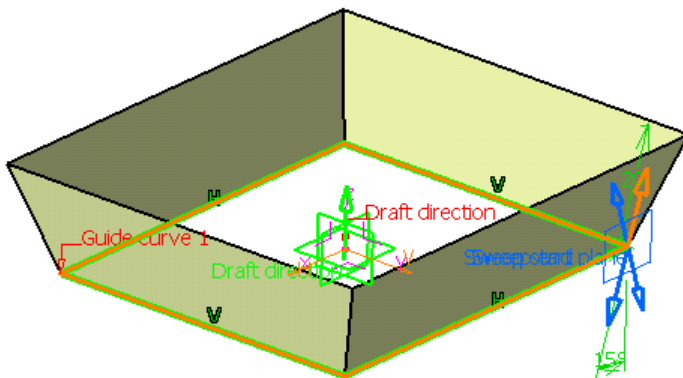


**Sweep – 1 profil pe 2 curba de ghid**



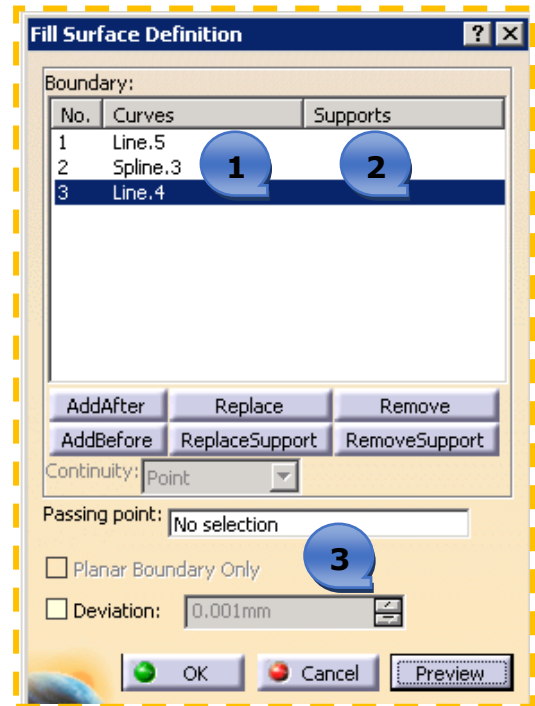
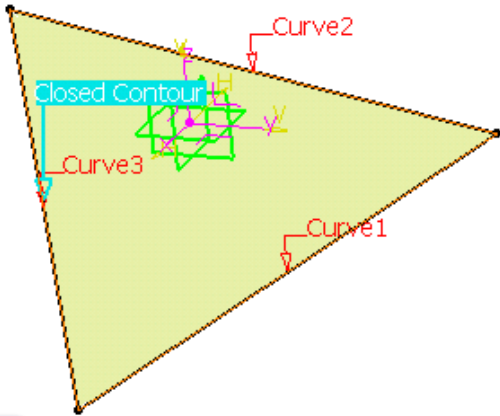
**Sweep – 1 profil pe 1 curba de ghid**

Profil = dreapta implicita, inclinata conform unghiului de demulaj

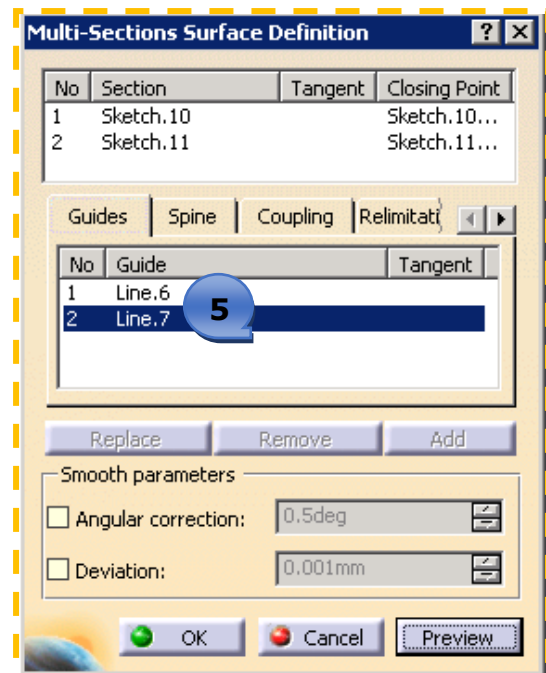
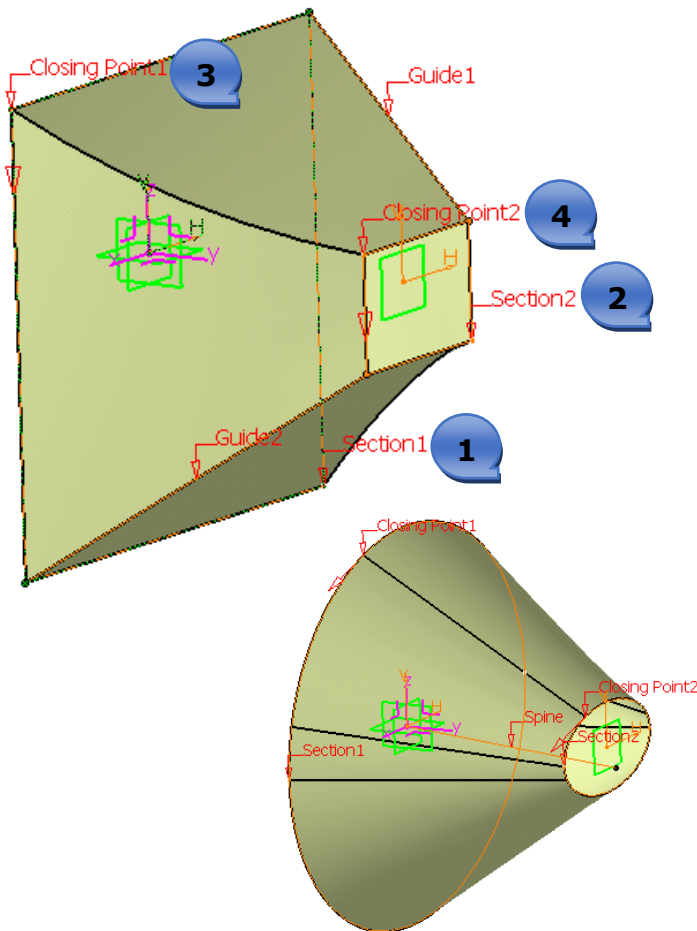




**Fill**



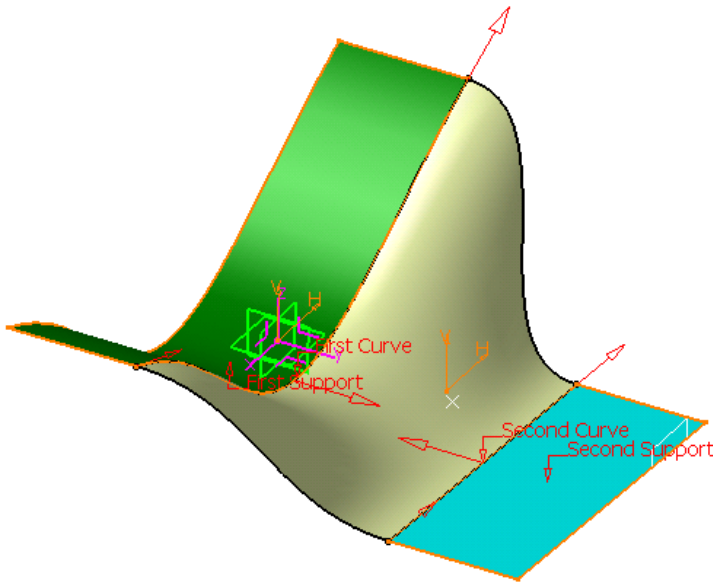
**Multi Section Surface**



- > Ambele "Closing Points" trebuie sa fie pozitionate pe aceiasi curva de ghid, iar directia in fiecare "Closing Point" sa fie orientata in acelasi sens.
- > Se alege "Guide Curves" daca sectiunile sunt intersectate de curbele de ghid
- > Se alege "Spine" daca sectiunile nu sunt intersectate de curva de ghid.



**Blend**



**Blend Definition** [?] [X]

1 First curve: Sketch.10

2 First support: Extrude.3

3 Second curve: Sketch.11

4 Second support: Extrude.4

Basic | Tension | Closing Points | Couf

5 First continuity: Tangency

Trim first support

First tangent borders: Both extremities

Second continuity: Tangency

Trim second support

Second tangent borders: Both extremities

Replace Remove Reverse

Smooth parameters

Angular correction: 0.5deg

Deviation: 0.001mm

OK Cancel Preview

**Operatii intre elemente wireframe sau intre suprafete**

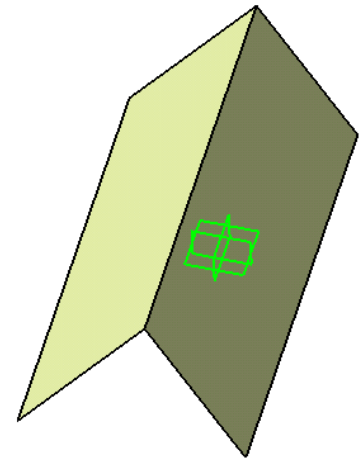
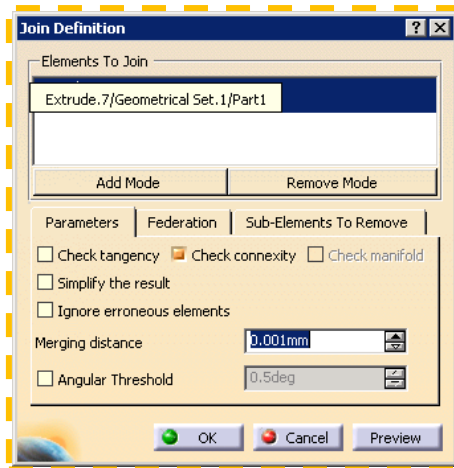
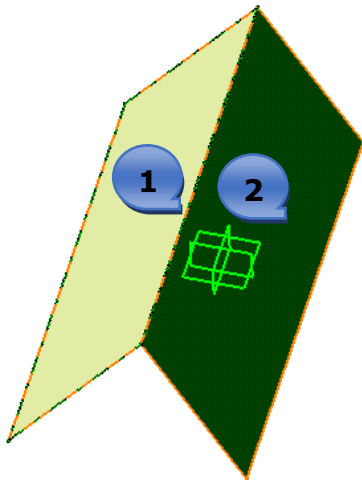


Join, Split/Trim, Boundary, Filet, Translate, Extrapolate

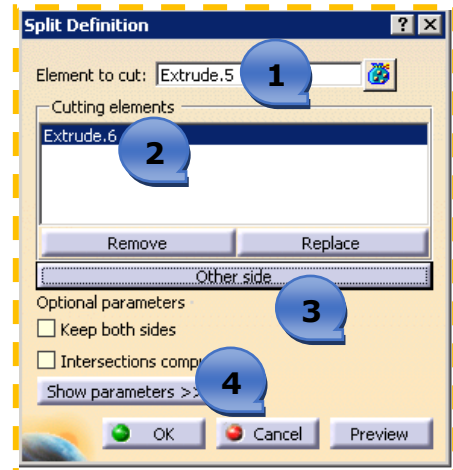
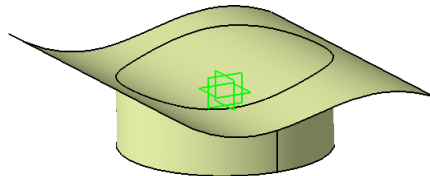
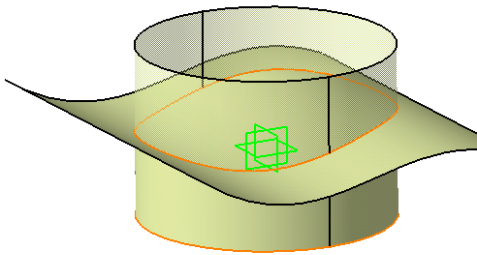
|         |       |                  |                  |
|---------|-------|------------------|------------------|
| Join    | Split | Boundary         | Filet            |
| Healing | Trim  | Extract          | Edge Filet       |
| Untrim  |       | Multiple Extract | Variable Filet   |
|         |       |                  | Tritangent Filet |



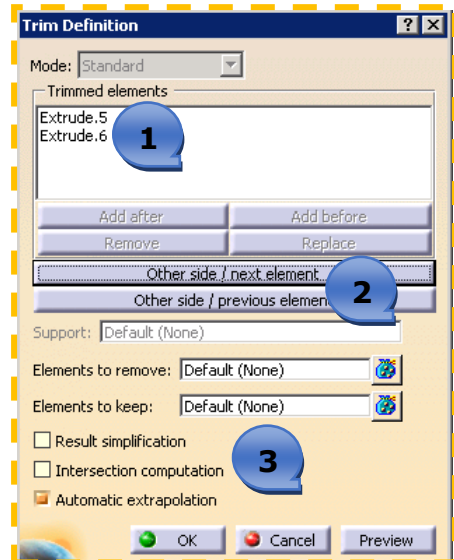
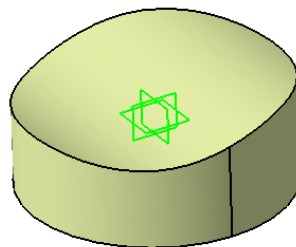
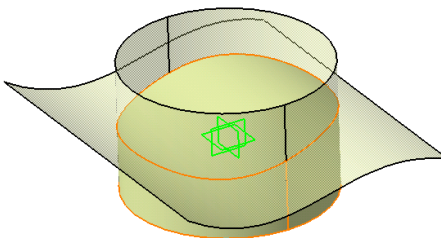
**Join**



**Split**

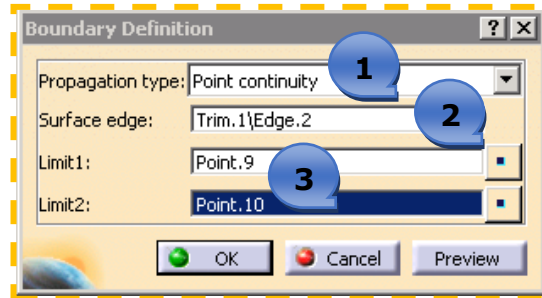
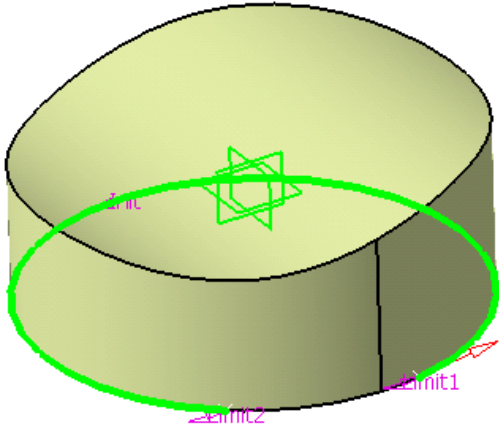


**Trim**

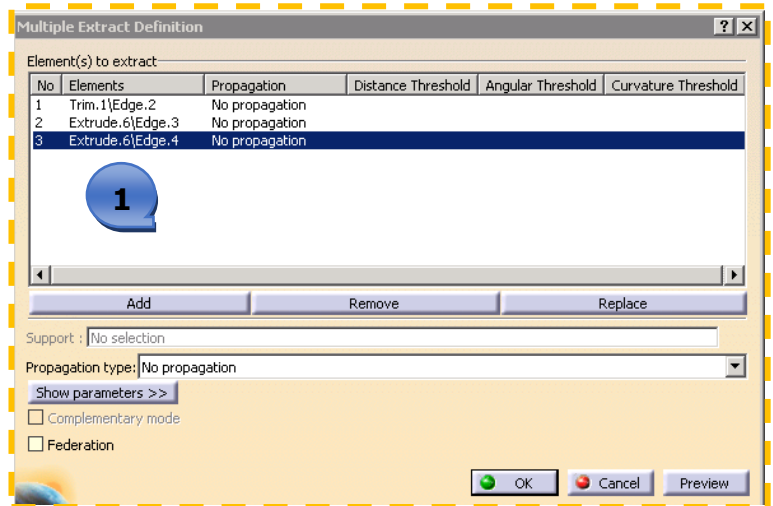
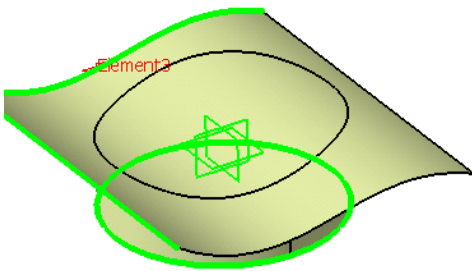




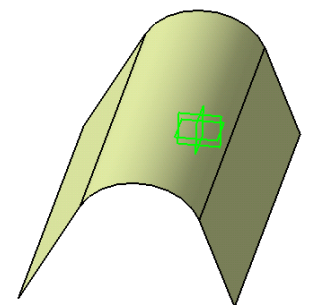
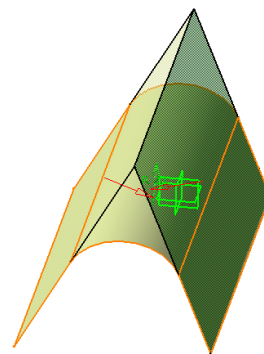
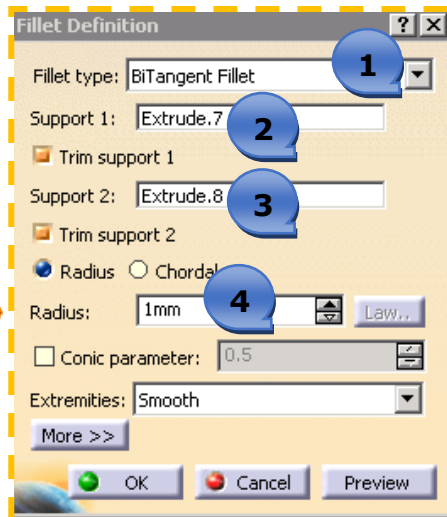
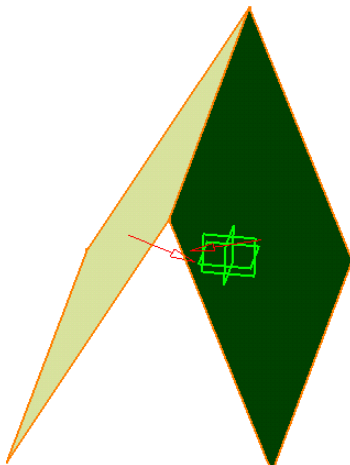
**Boundary**



**Multiple Extract**

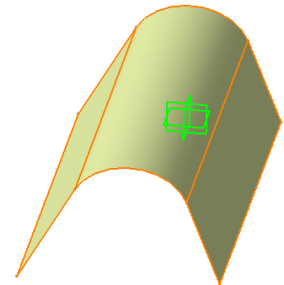
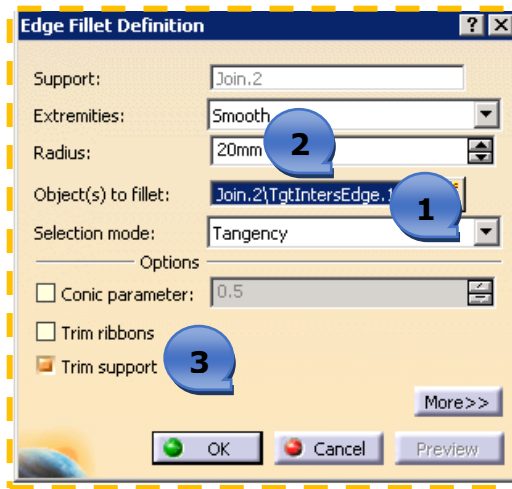
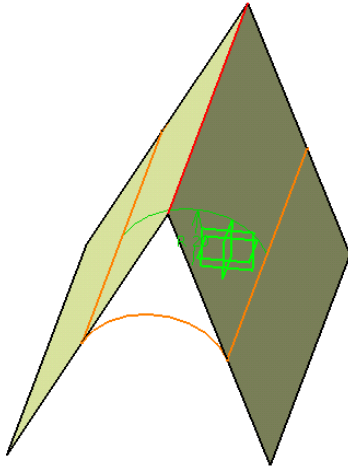


**Fillet**

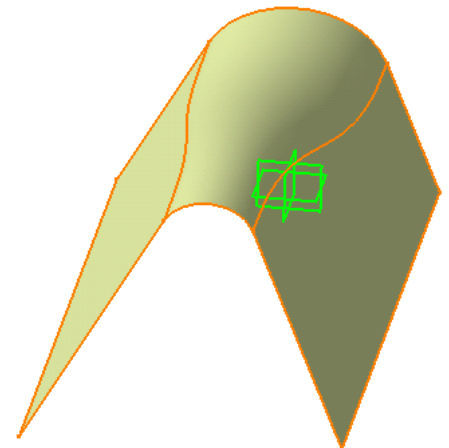
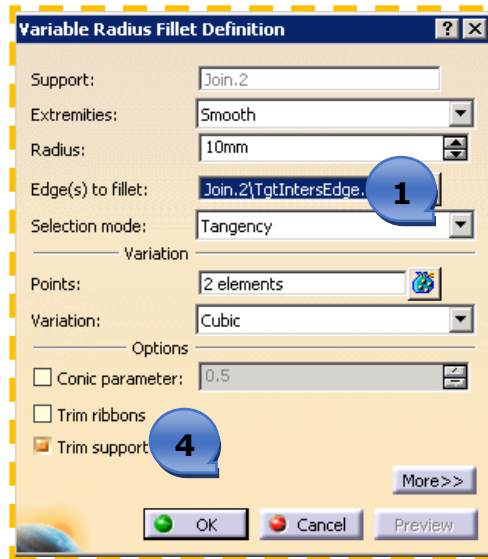
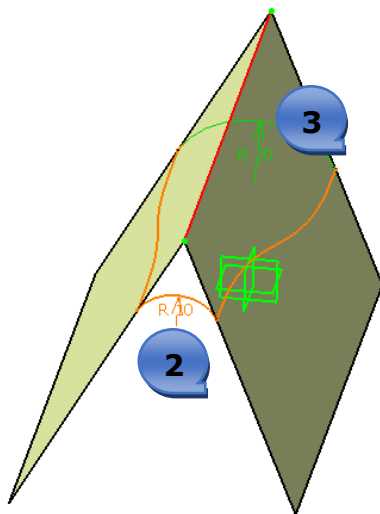




### Edge Fillet



### Variable Fillet



### Extrapolation

