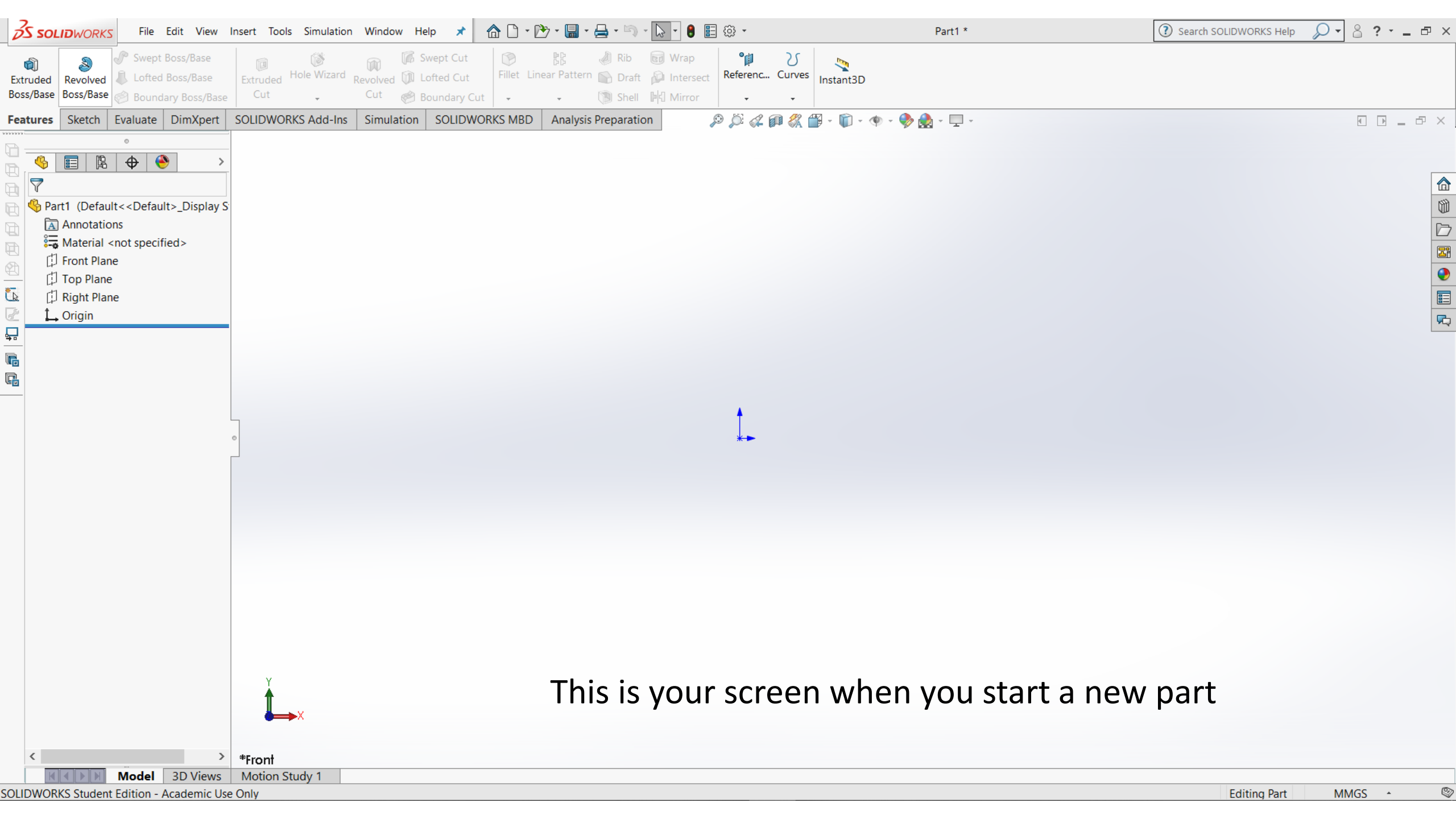
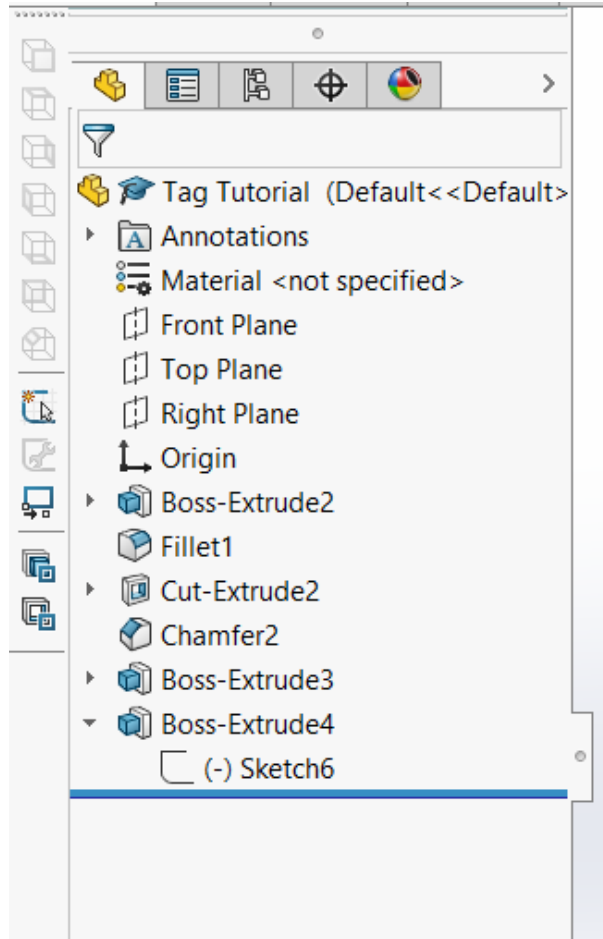


Basics of SolidWorks Tutorial

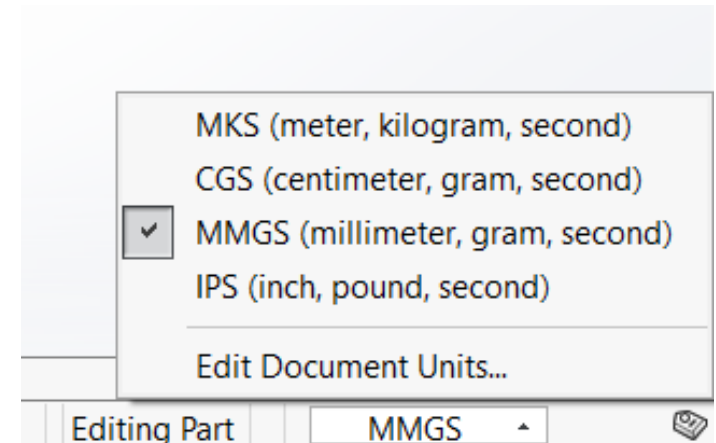


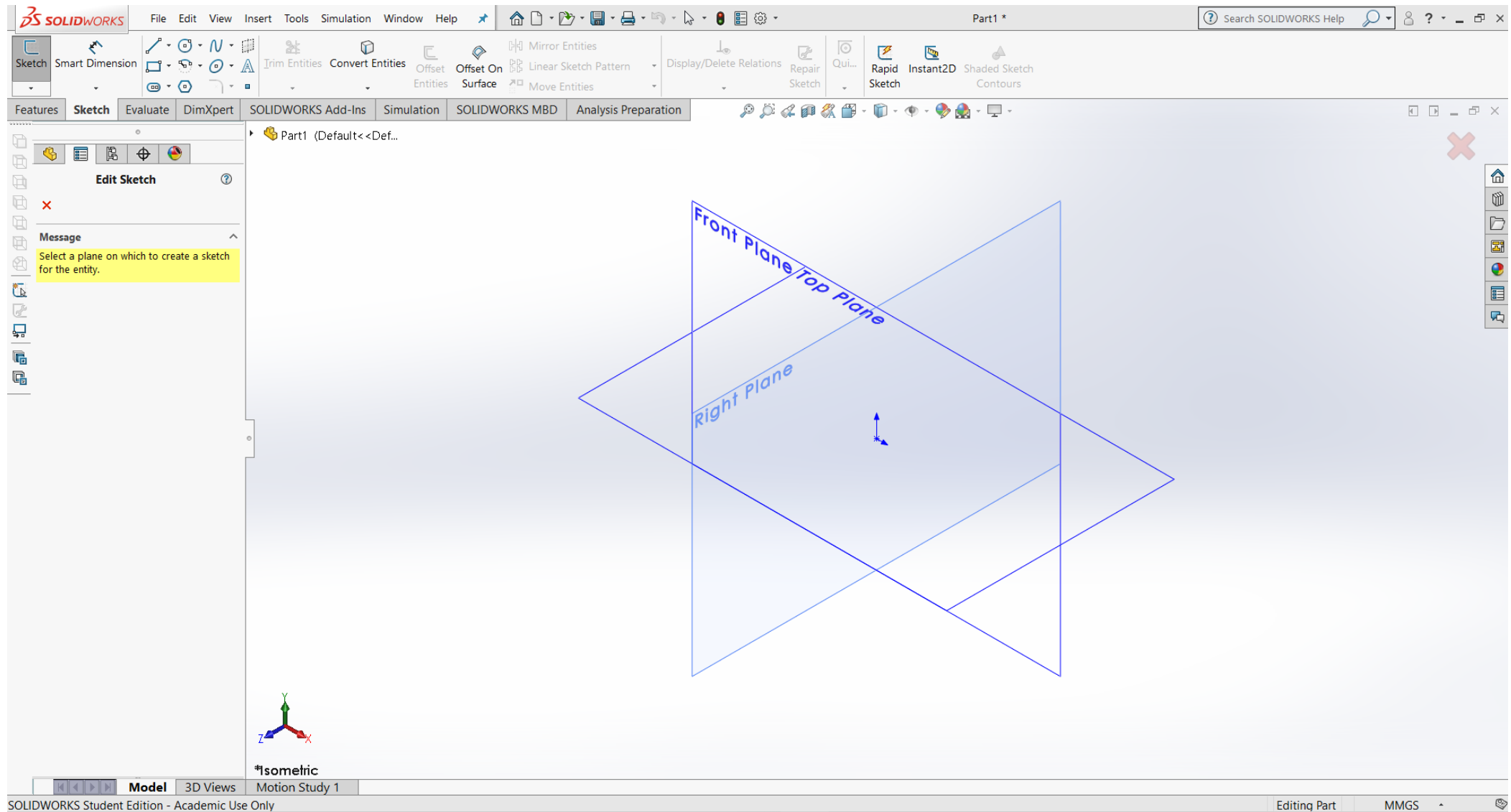
This is your screen when you start a new part



The Design Tree lets
select and modify
sketches and features

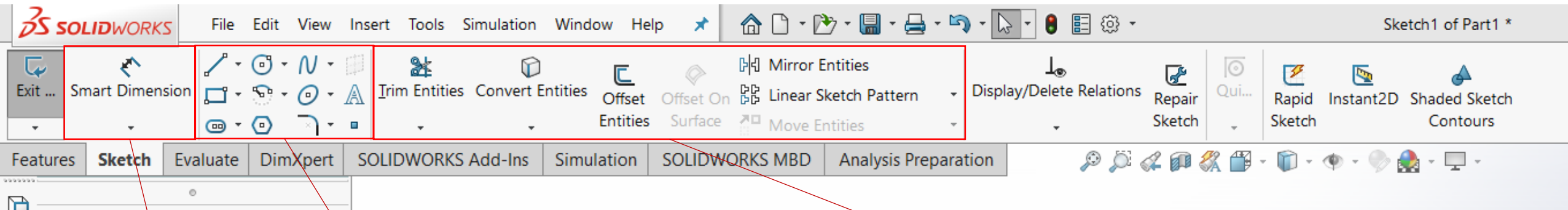
Units can be changed in
the bottom-right corner





To begin designing your part, select a plane using the Sketch tool

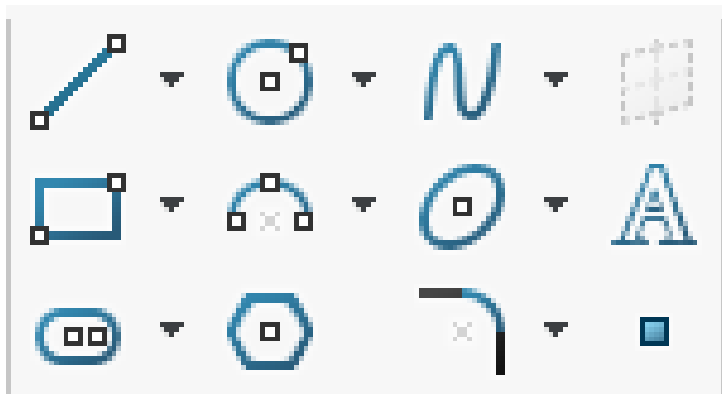
Tools within the Sketch Tab

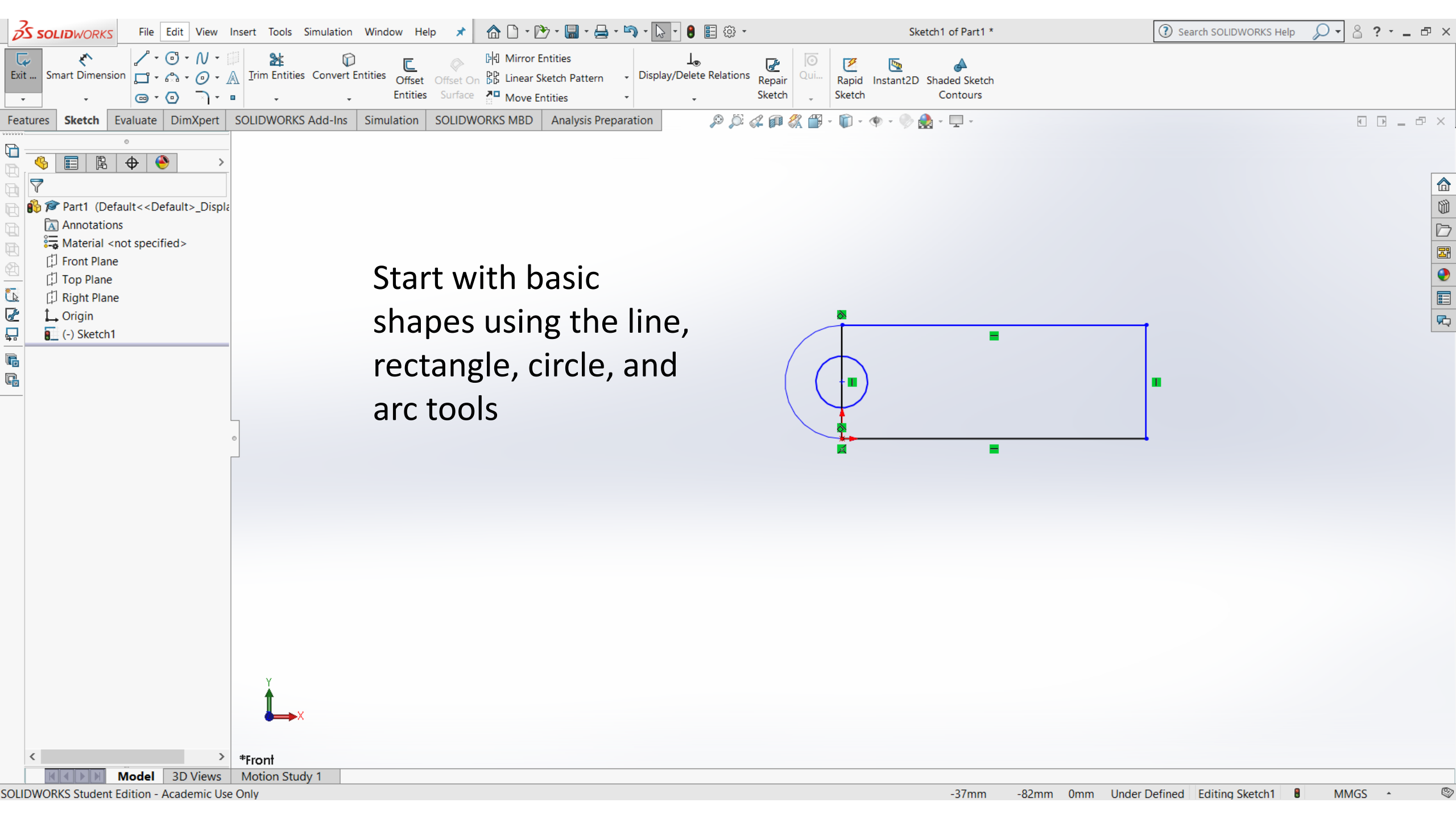


Dimensions

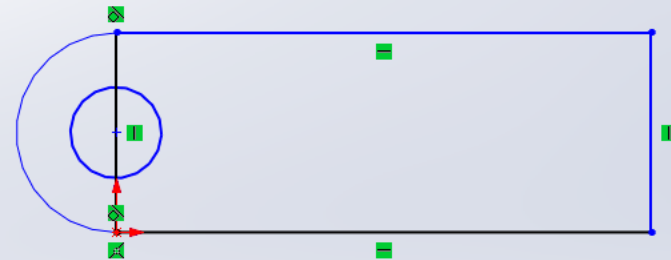
Modify Lines and Create Patterns

Lines, Curves, and Shapes





Start with basic shapes using the line, rectangle, circle, and arc tools



*Front

Features Sketch Evaluate DimXpert SOLIDWORKS Add-Ins Simulation SOLIDWORKS MBD Analysis Preparation

Part1 (Default<<Def..

Properties

Selected Entities

- Arc1
- Line1

Existing Relations

- Tangent1

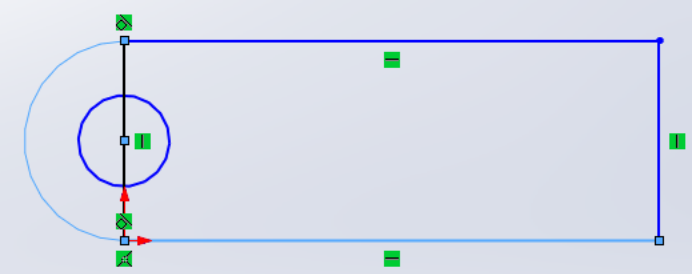
Under Defined

Add Relations

- Tangent
- Fix
- Equal Curve Length

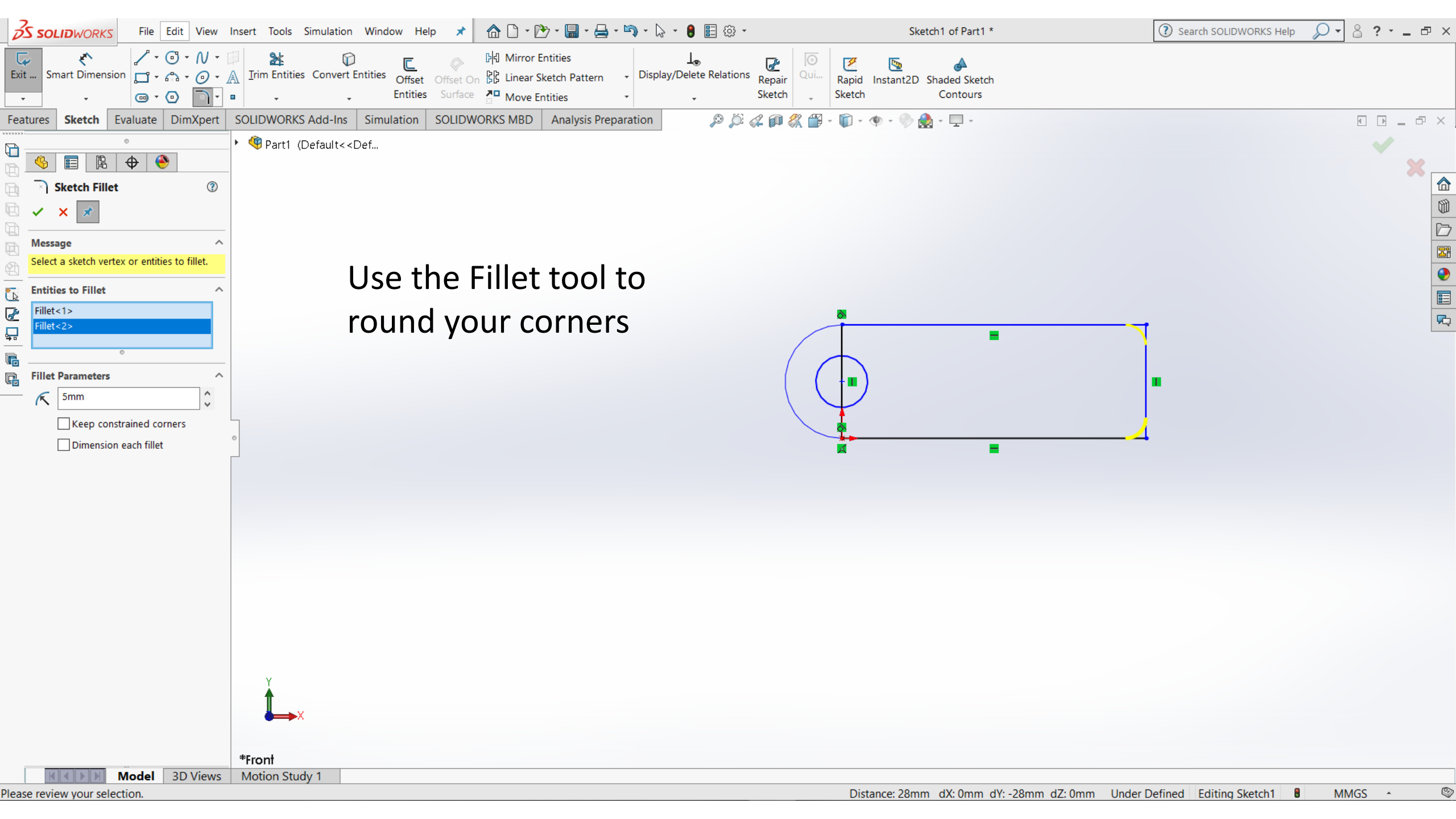
Options

- For construction

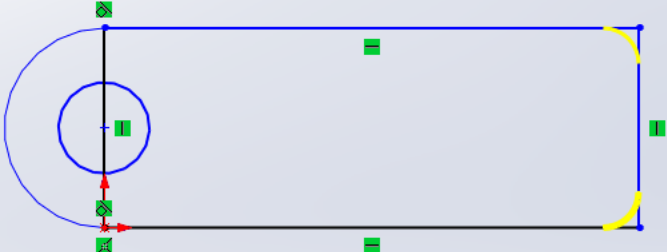


Shift-click on lines to add constraints

*Front



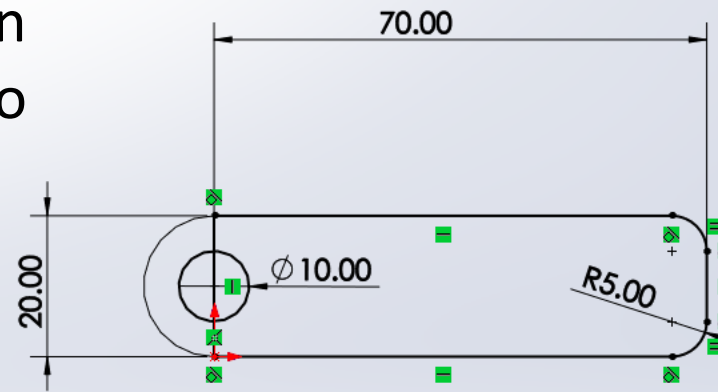
Use the Fillet tool to round your corners

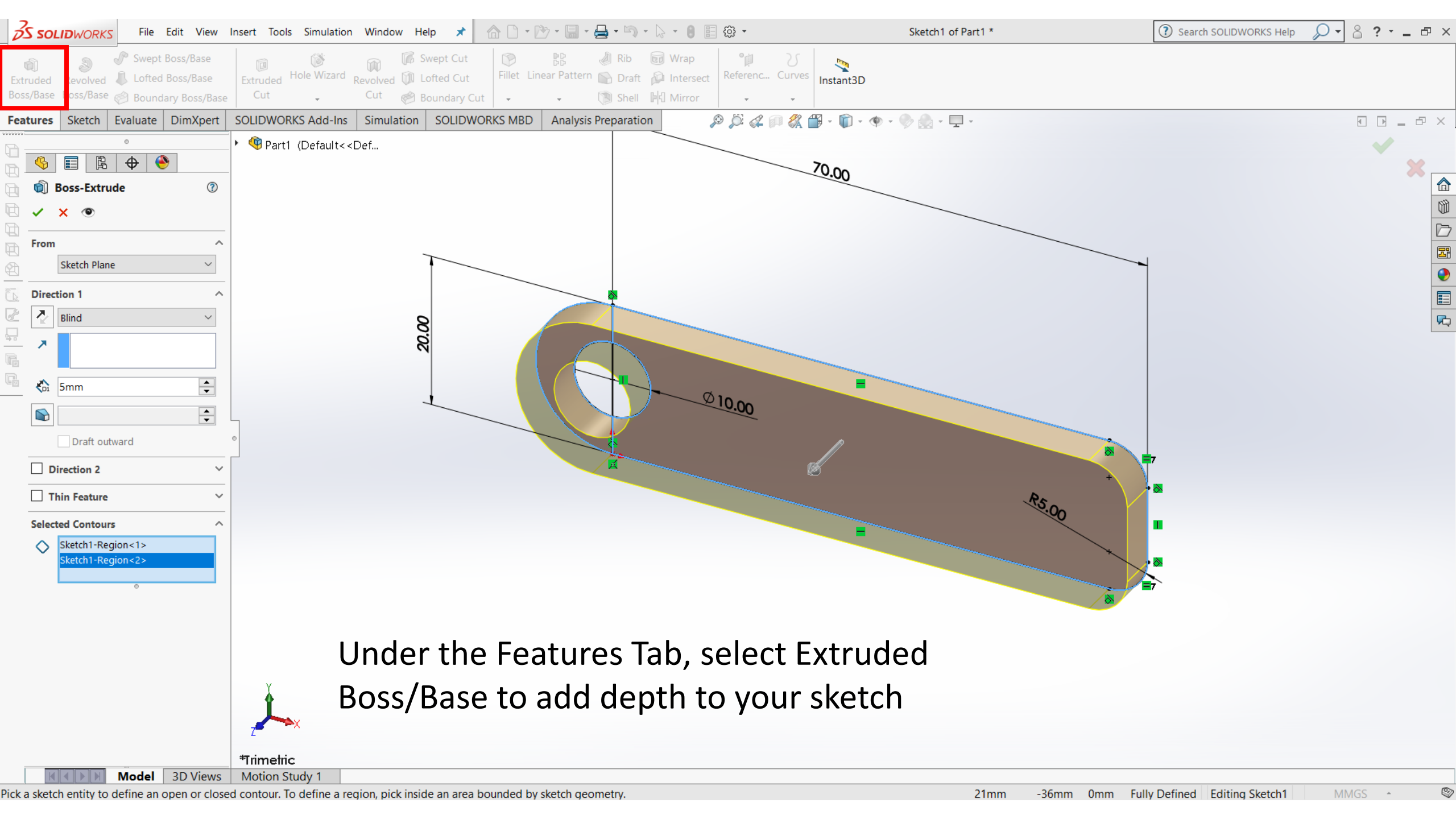


*Front

Model 3D Views Motion Study 1

Using the Smart Dimension Tool, add measurements to your lines





Extruded Boss/Base, Revolved Boss/Base, Swept Boss/Base, Boundary Boss/Base, Extruded Cut, Hole Wizard, Revolved Cut, Lofted Cut, Boundary Cut, Fillet, Linear Pattern, Draft, Intersect, Shell, Mirror, Reference, Curves, Instant3D

Features Sketch Evaluate DimXpert SOLIDWORKS Add-Ins Simulation SOLIDWORKS MBD Analysis Preparation

Part1 (Default<<Def...)

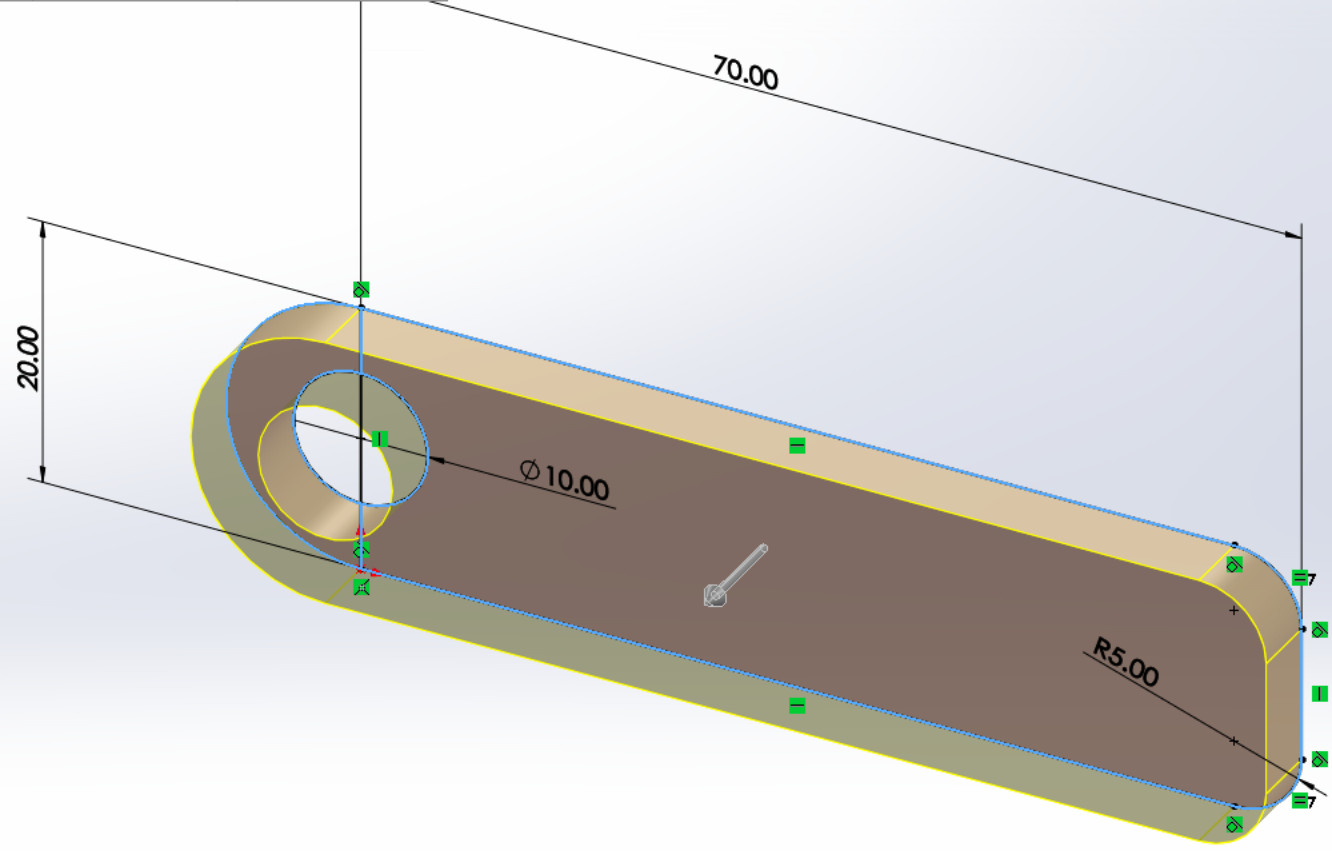
Boss-Extrude

From: Sketch Plane

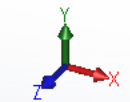
Direction 1: Blind

5mm

Selected Contours: Sketch1-Region<1>, Sketch1-Region<2>

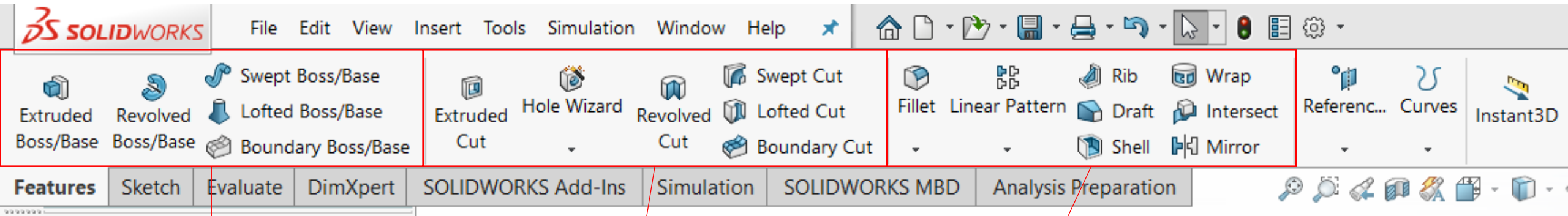


Under the Features Tab, select Extruded Boss/Base to add depth to your sketch



*Trimetric

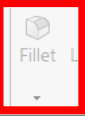
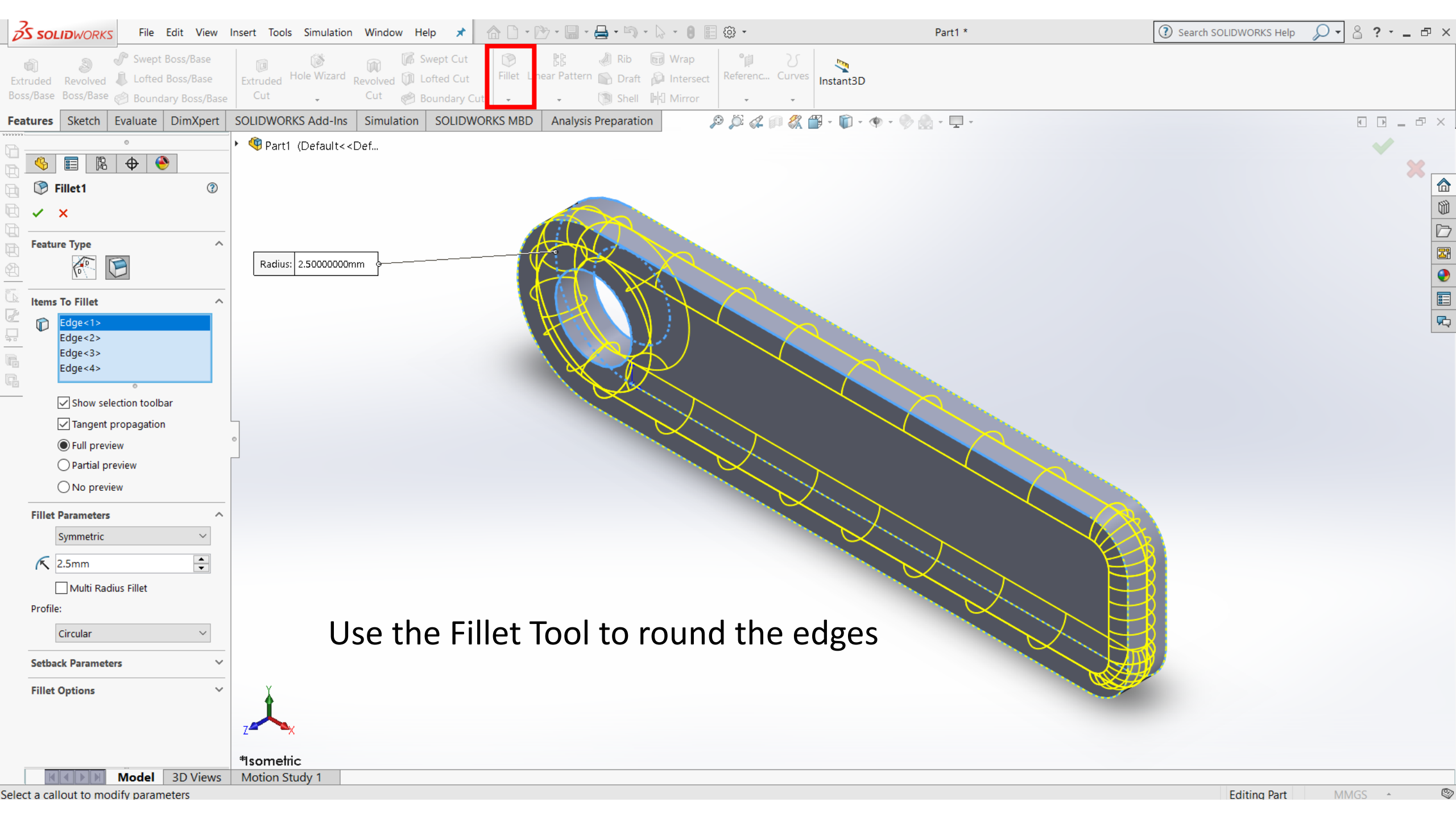
Tools within the Feature Tab



Extrusion Tools used to add volume from sketches

Cutting tools used to remove volume

Specialty Tools



Fillet1

Feature Type

- Items To Fillet
- Edge<1>
- Edge<2>
- Edge<3>
- Edge<4>

- Show selection toolbar
- Tangent propagation
- Full preview
- Partial preview
- No preview

Fillet Parameters

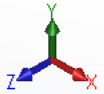
- Symmetric
- 2.5mm
- Multi Radius Fillet
- Profile: Circular

Setback Parameters

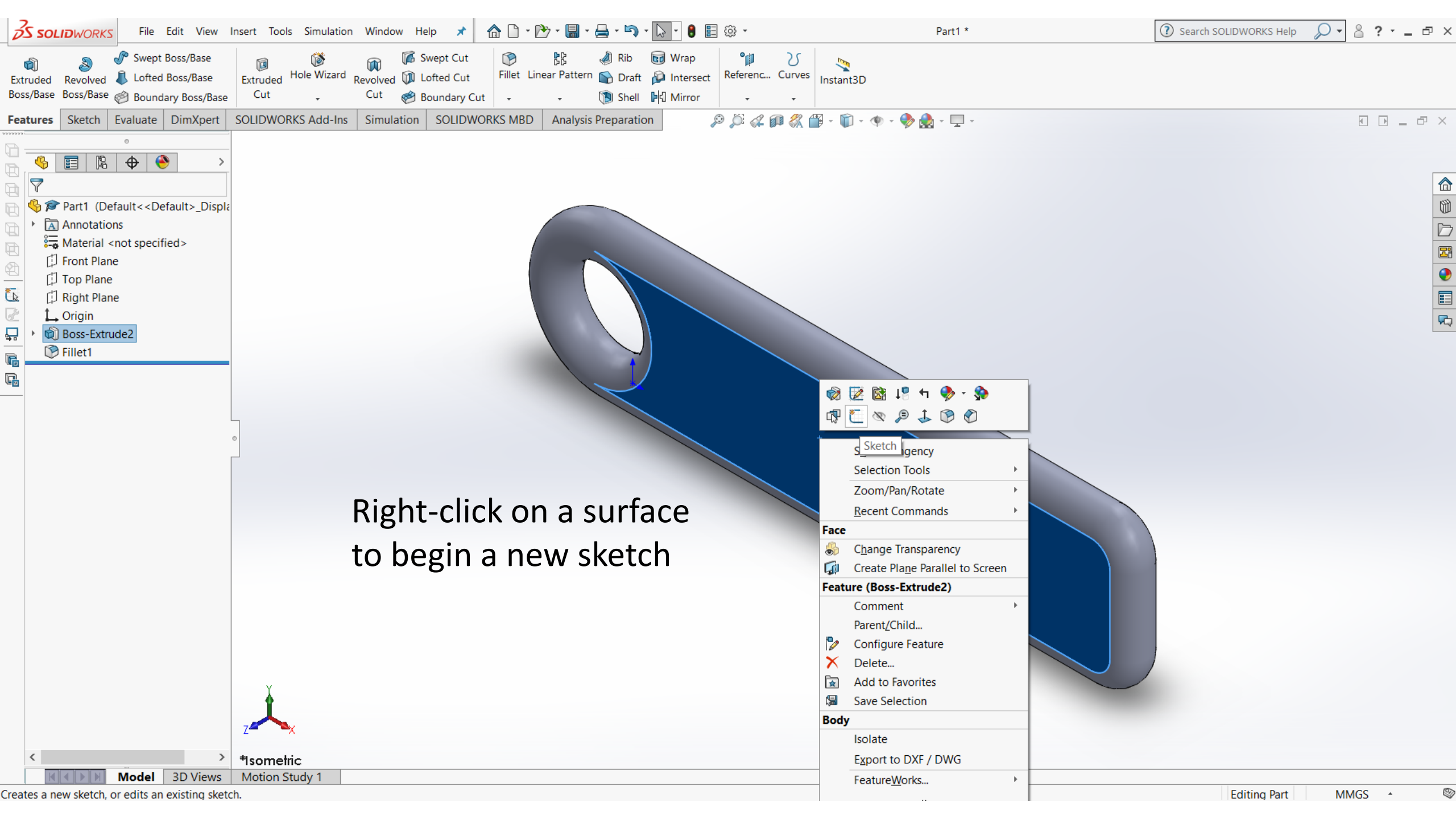
Fillet Options

Radius: 2.50000000mm

Use the Fillet Tool to round the edges



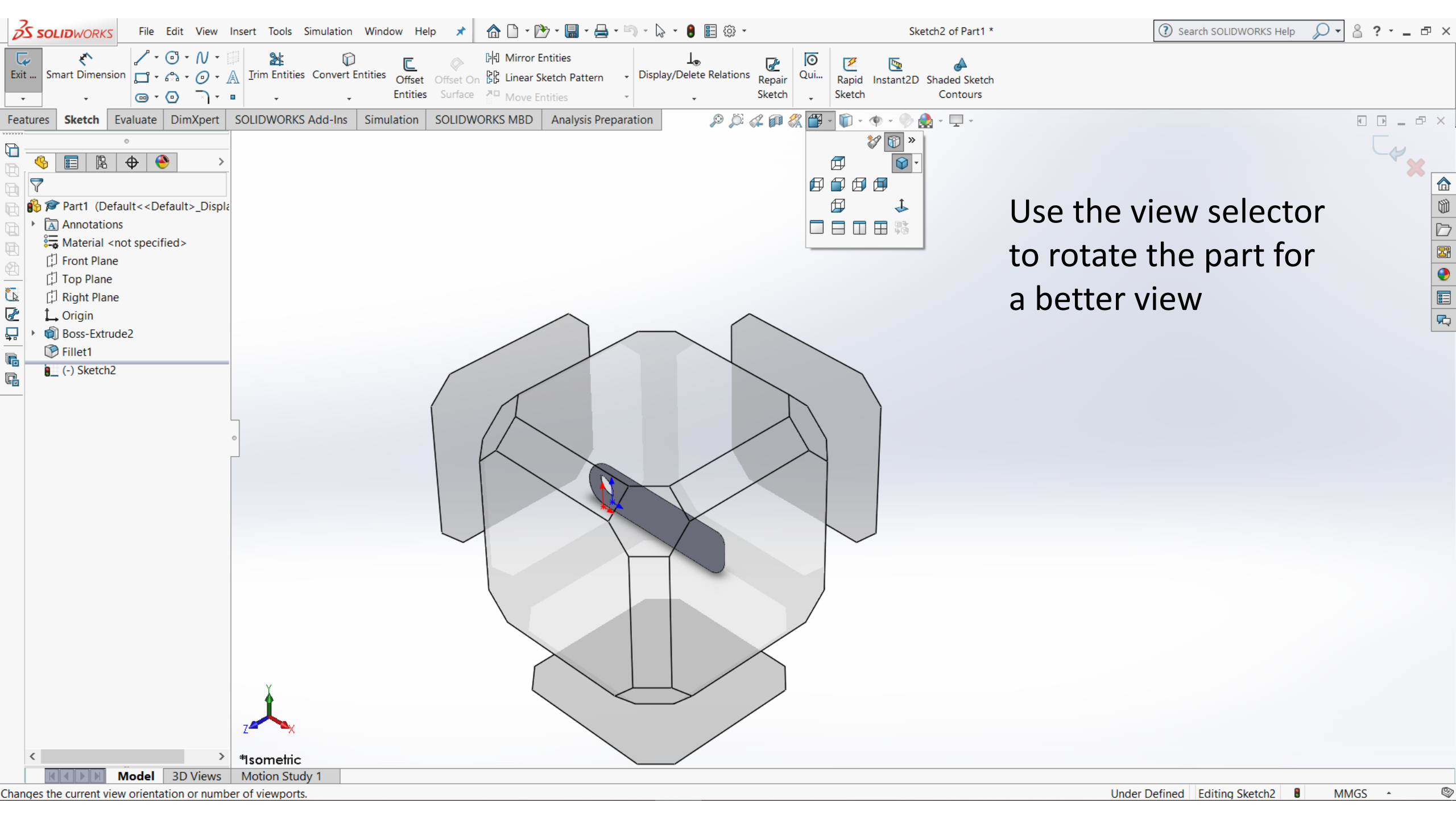
*Isometric



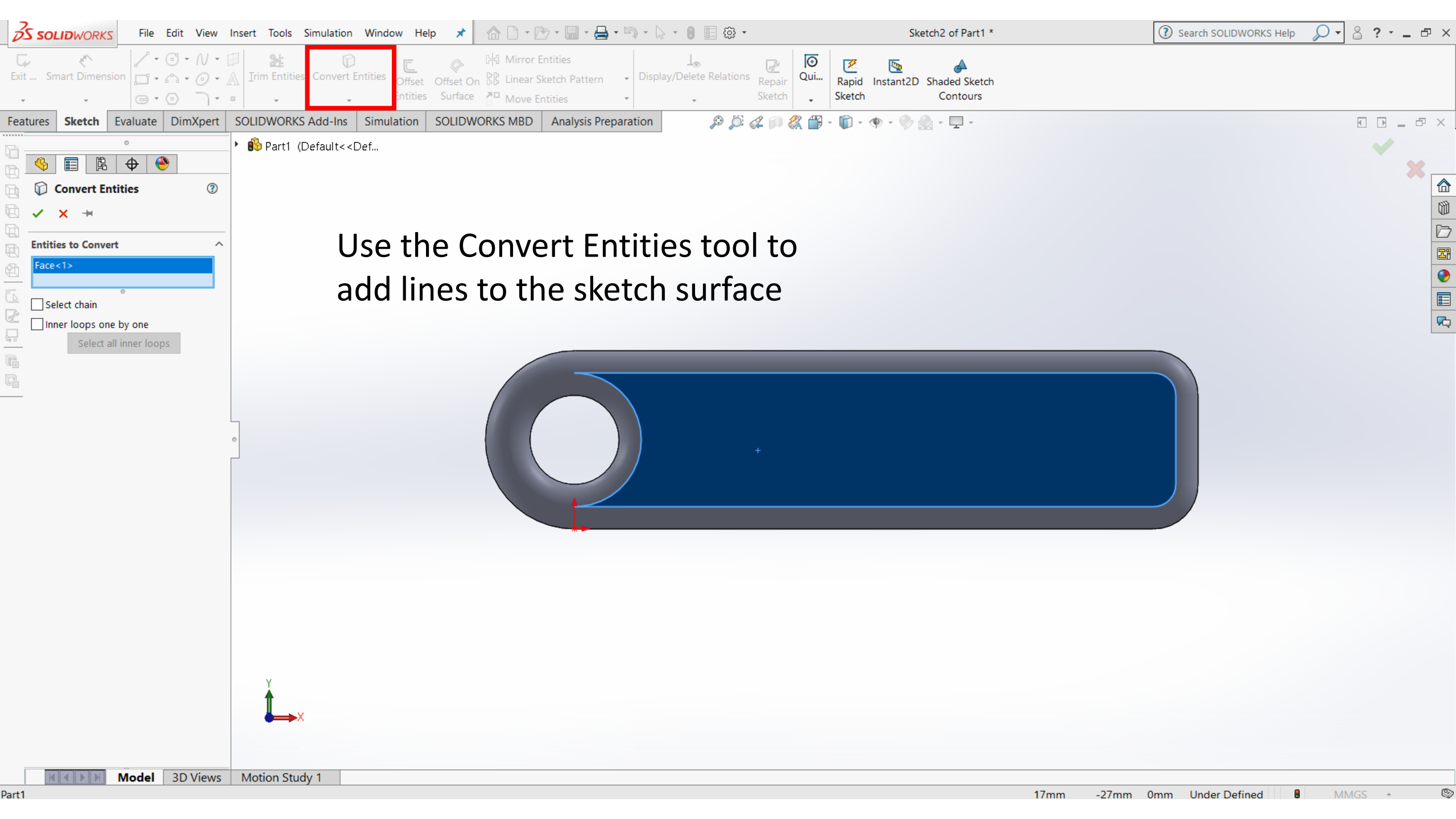
Right-click on a surface to begin a new sketch

- Sketch
- Selection Tools
- Zoom/Pan/Rotate
- Recent Commands
- Face**
- Change Transparency
- Create Plane Parallel to Screen
- Feature (Boss-Extrude2)**
- Comment
- Parent/Child...
- Configure Feature
- Delete...
- Add to Favorites
- Save Selection
- Body**
- Isolate
- Export to DXF / DWG
- FeatureWorks...

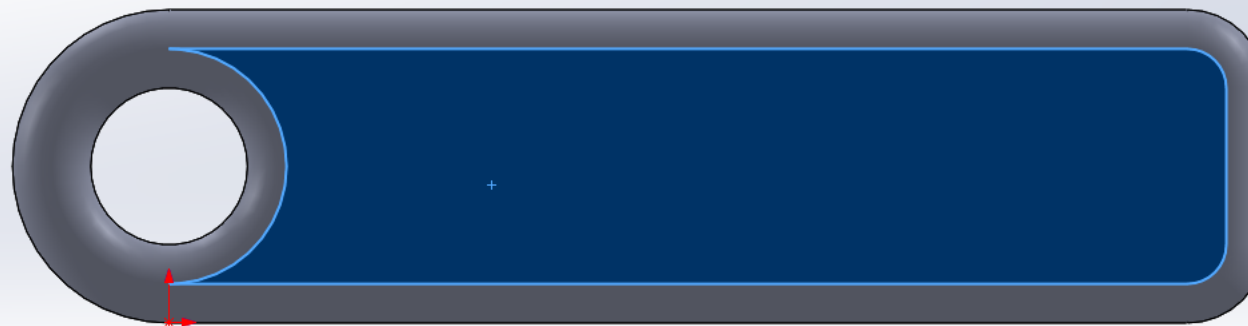
Creates a new sketch, or edits an existing sketch.

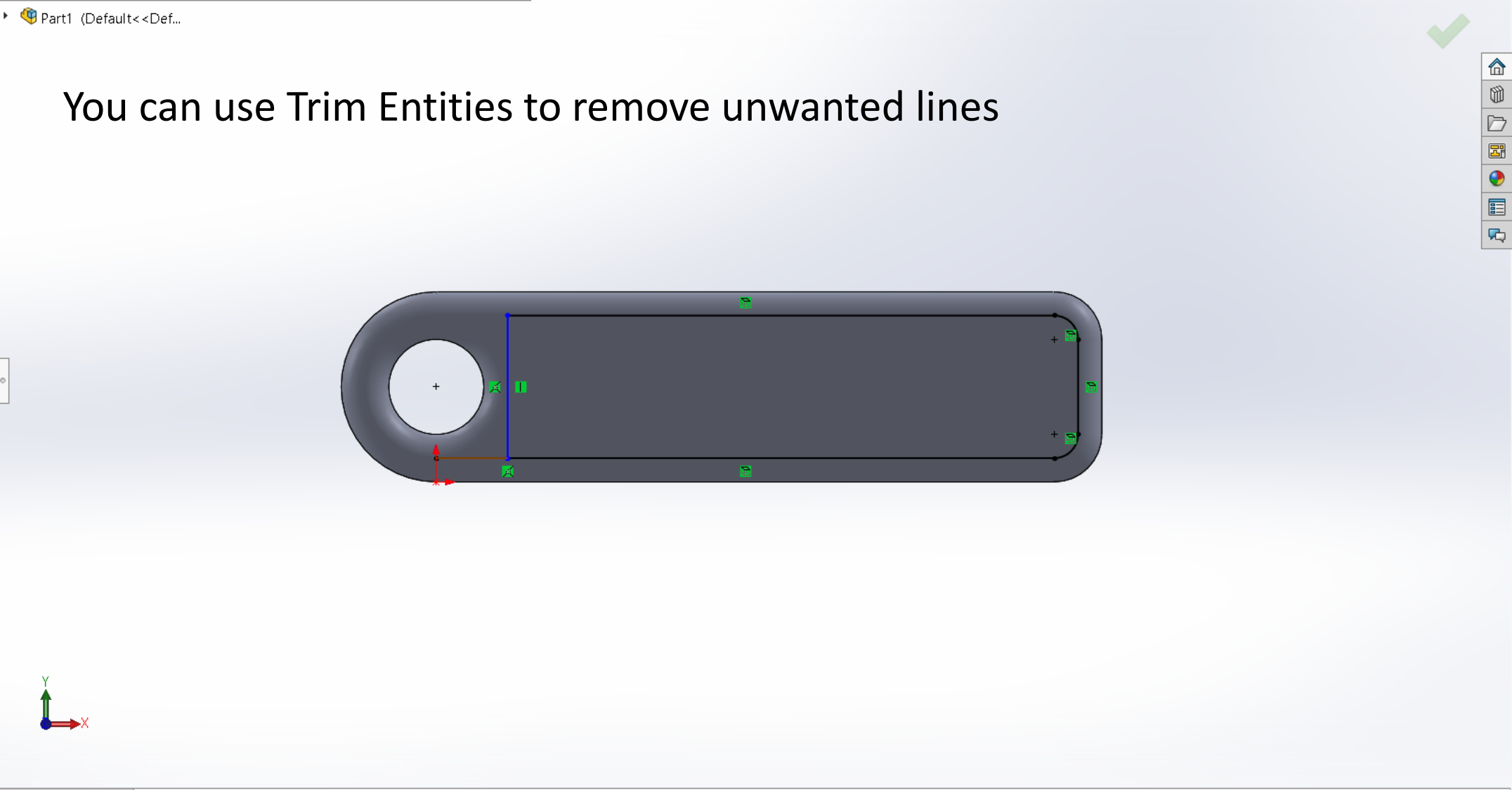


Use the view selector to rotate the part for a better view



Use the Convert Entities tool to add lines to the sketch surface





You can use Trim Entities to remove unwanted lines

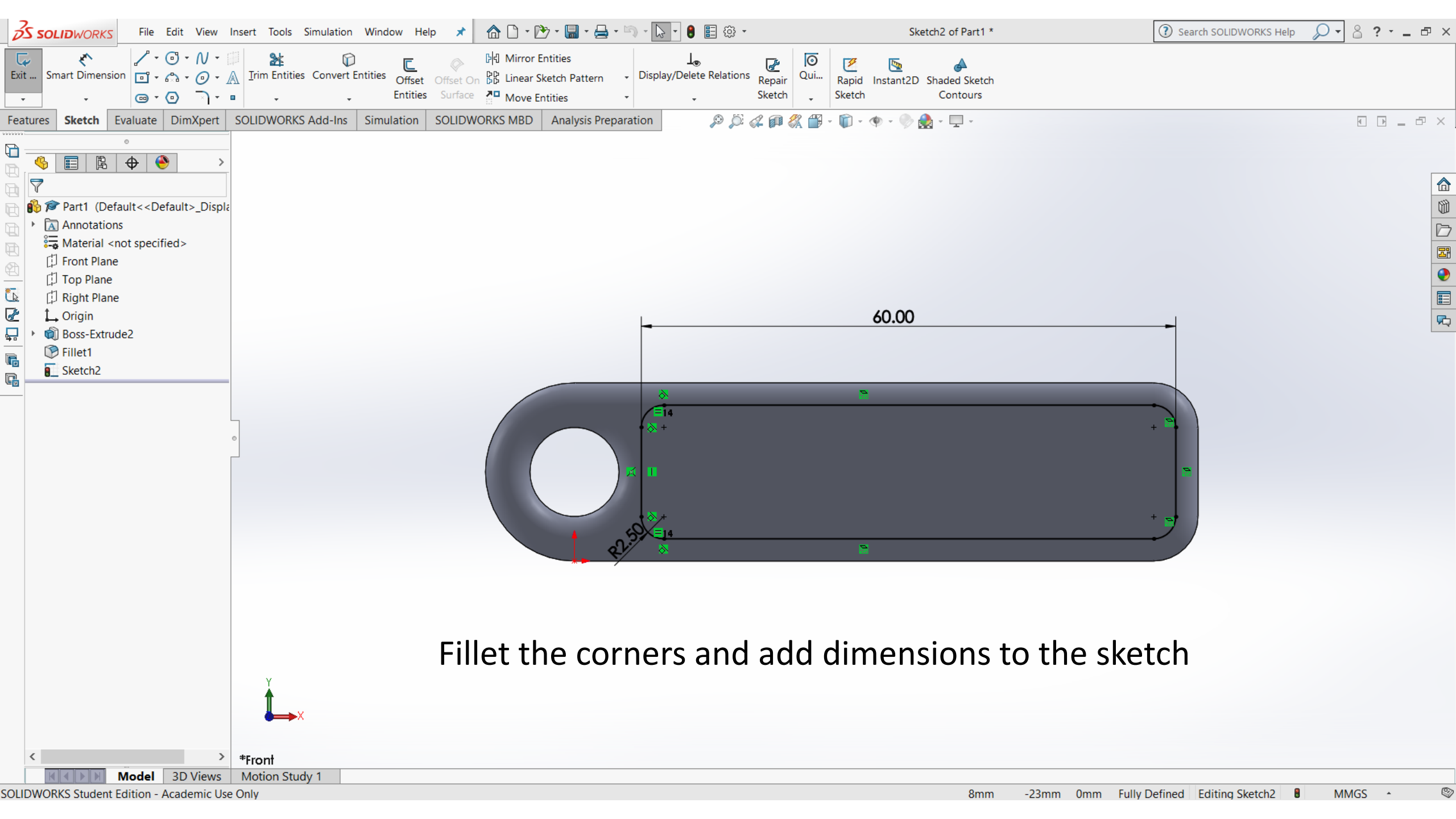
Trim

Message

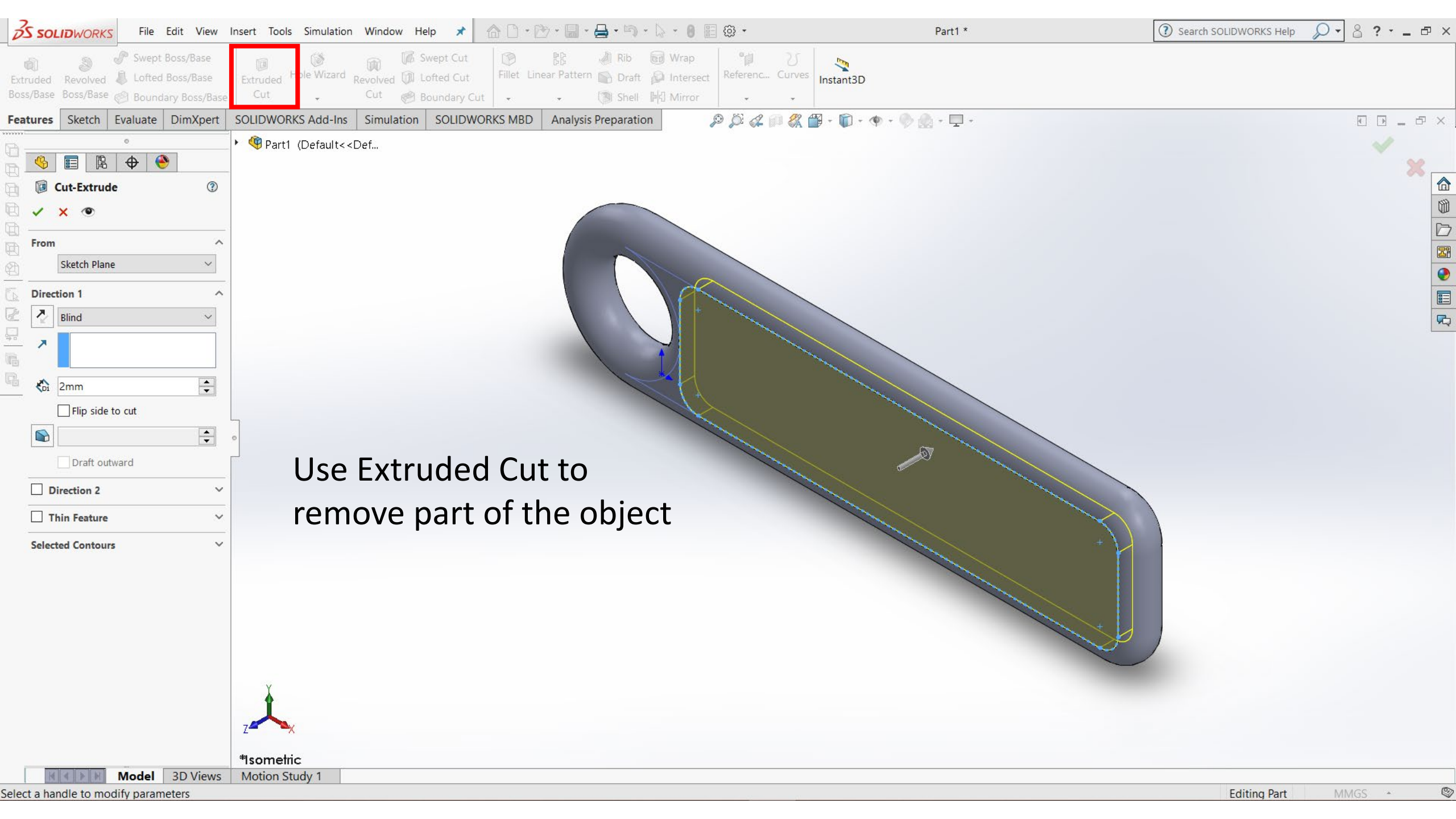
Select an entity to trim to the nearest intersecting entity or to drag to an entity

Options

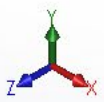
- Power trim
- Corner
- Trim away inside
- Trim away outside
- Trim to closest



Fillet the corners and add dimensions to the sketch



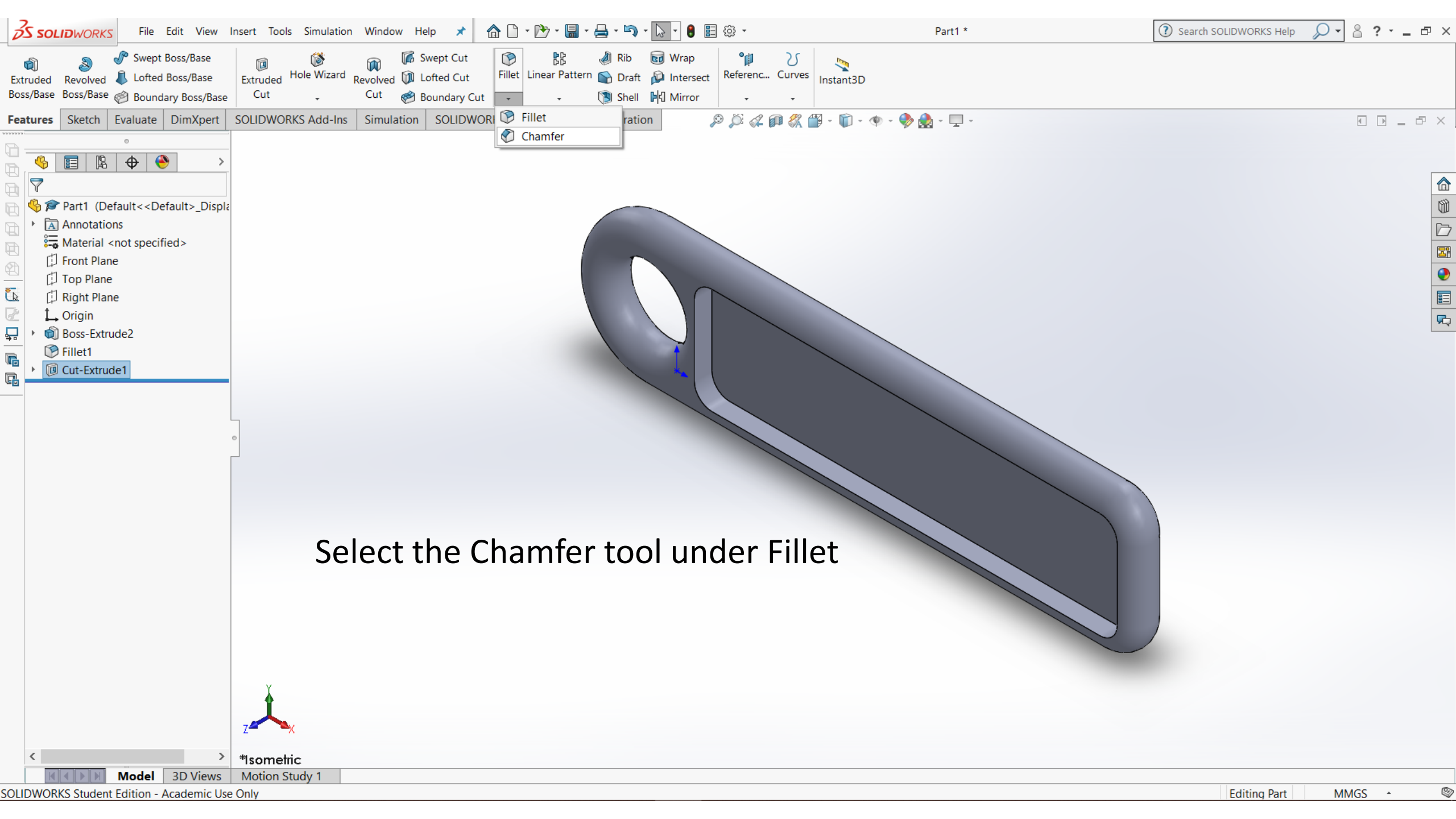
Use Extruded Cut to remove part of the object



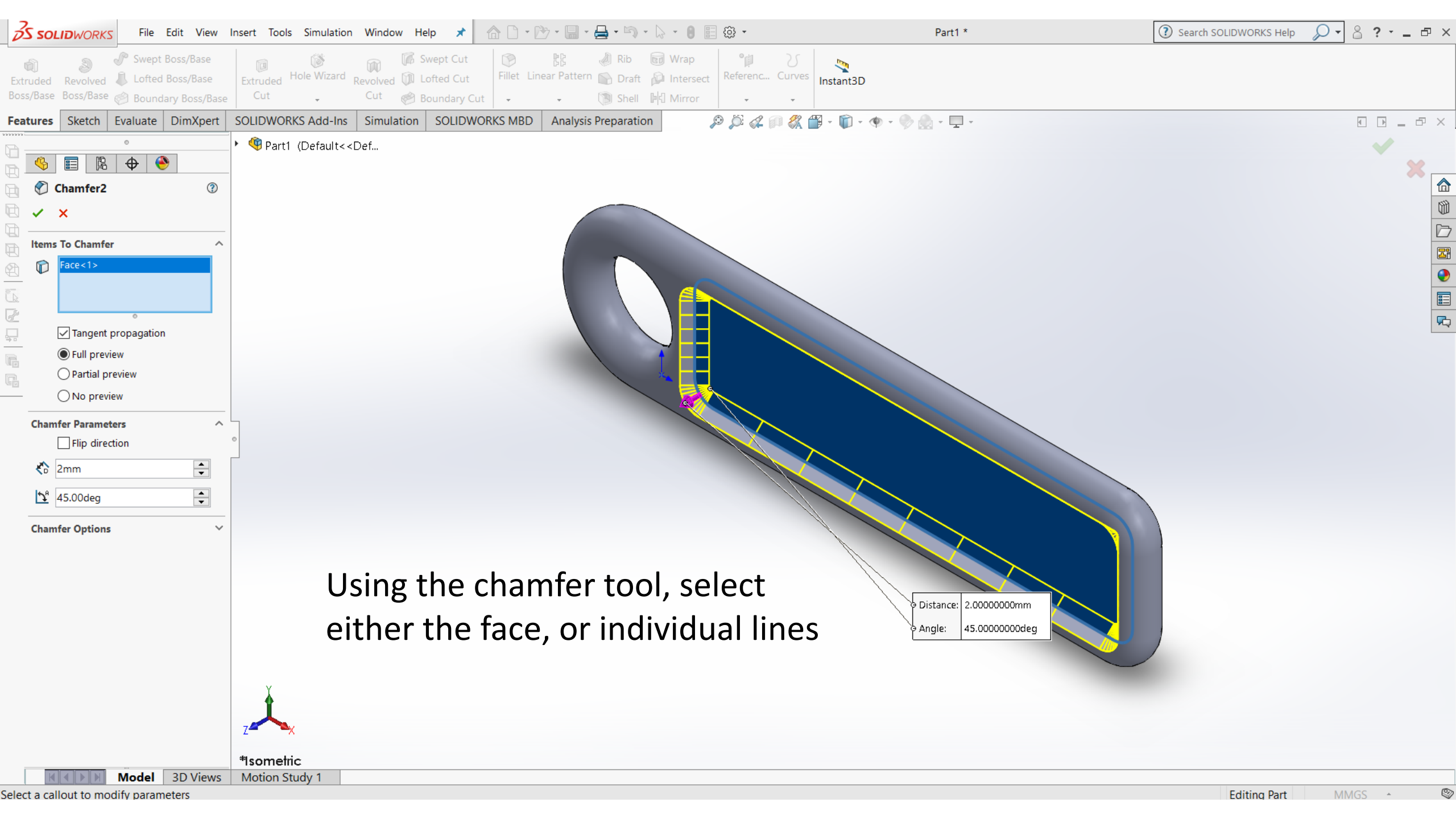
*Isometric

Motion Study 1

Model 3D Views

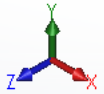


Select the Chamfer tool under Fillet



Using the chamfer tool, select either the face, or individual lines

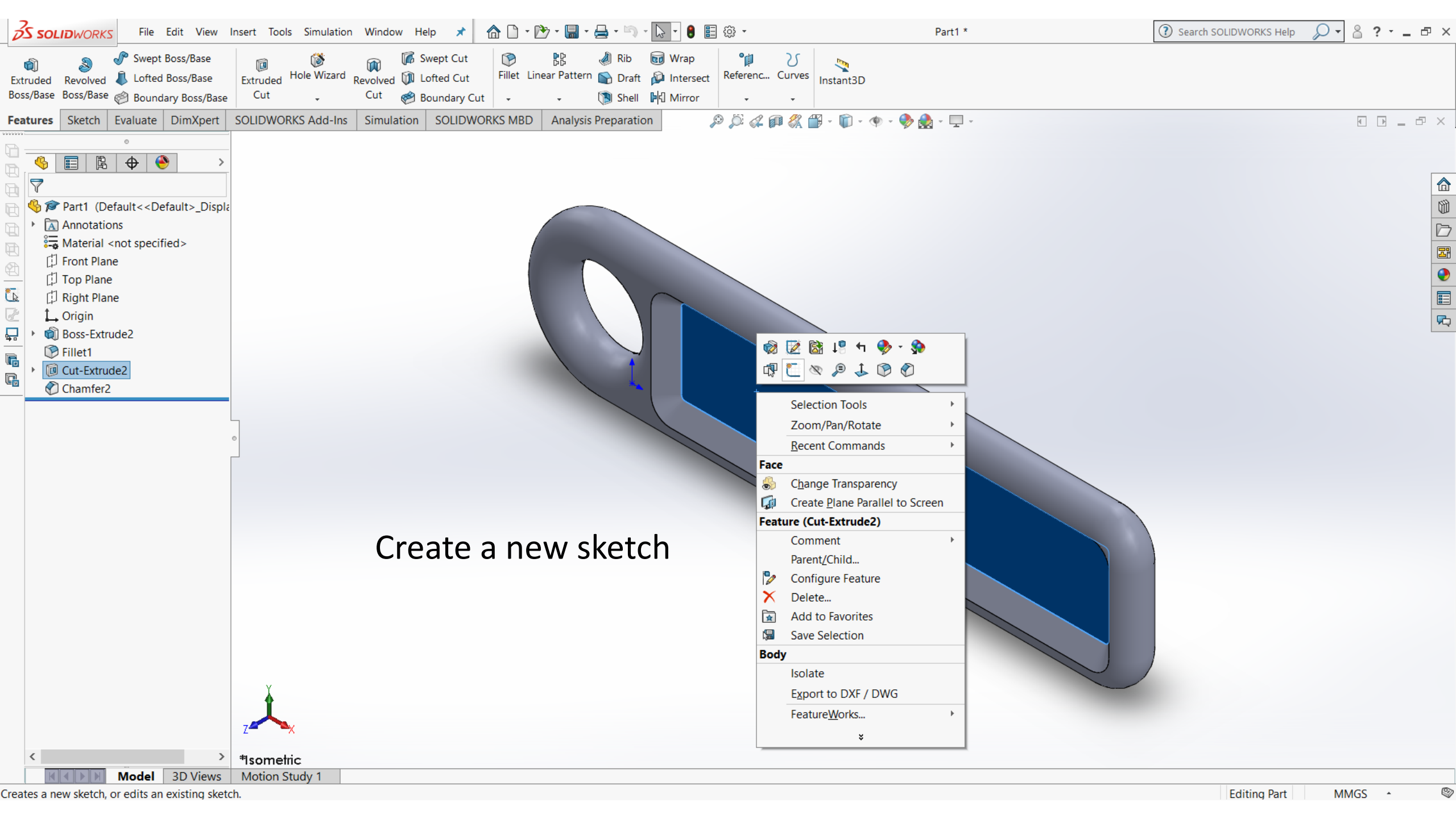
Distance:	2.00000000mm
Angle:	45.00000000deg



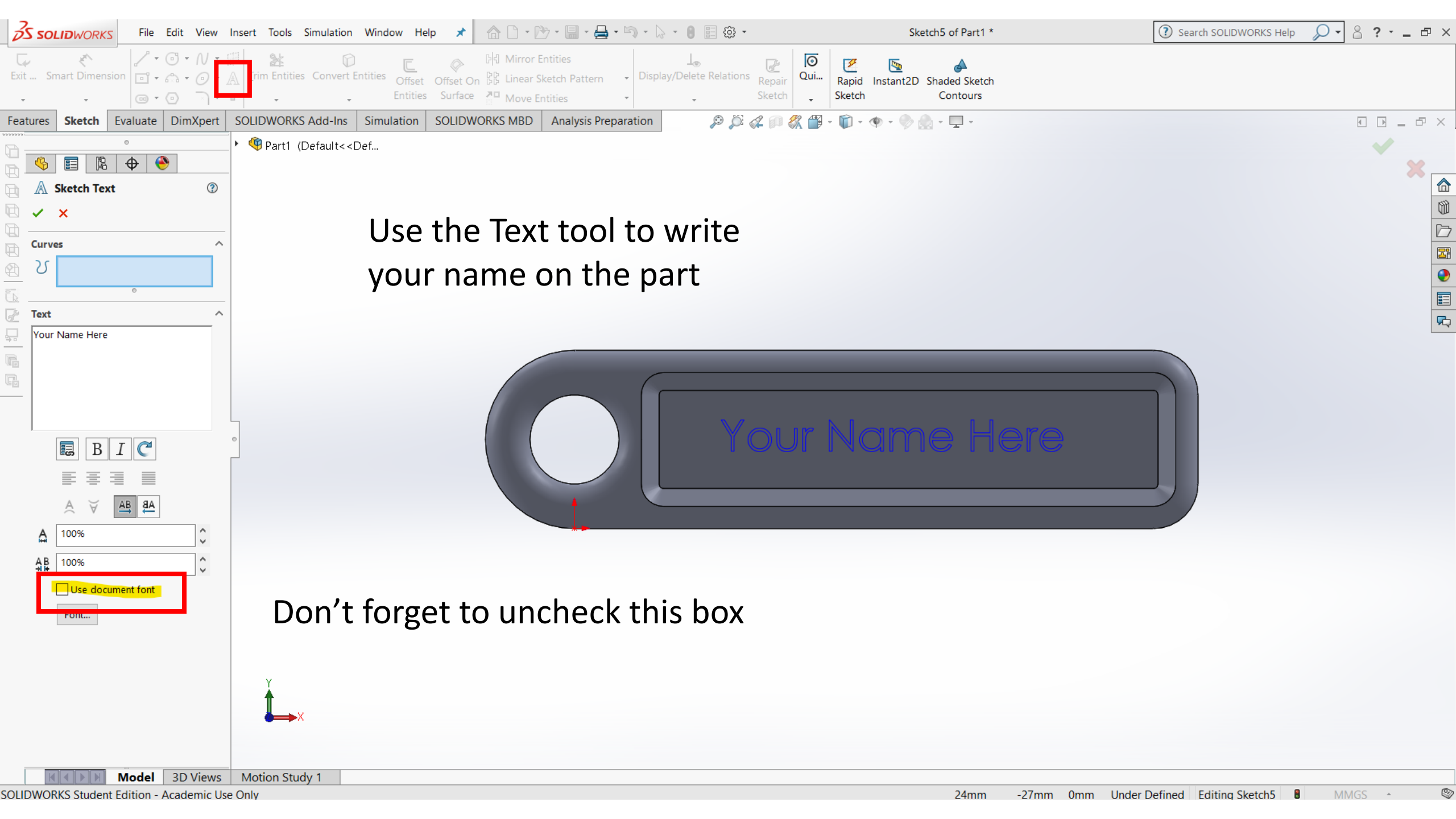
*Isometric

Motion Study 1

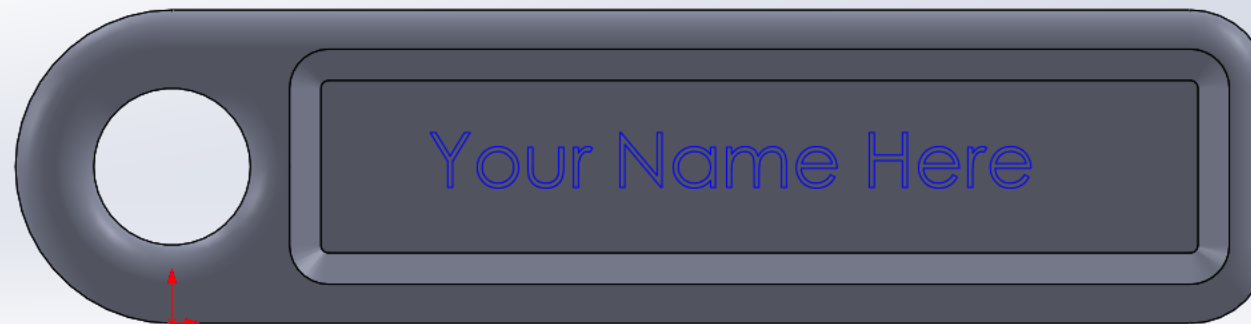
Model 3D Views



Create a new sketch

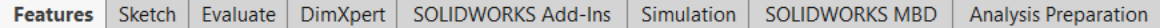
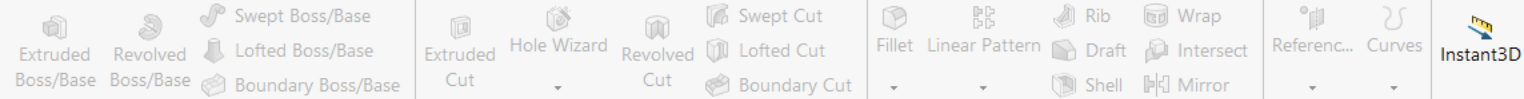
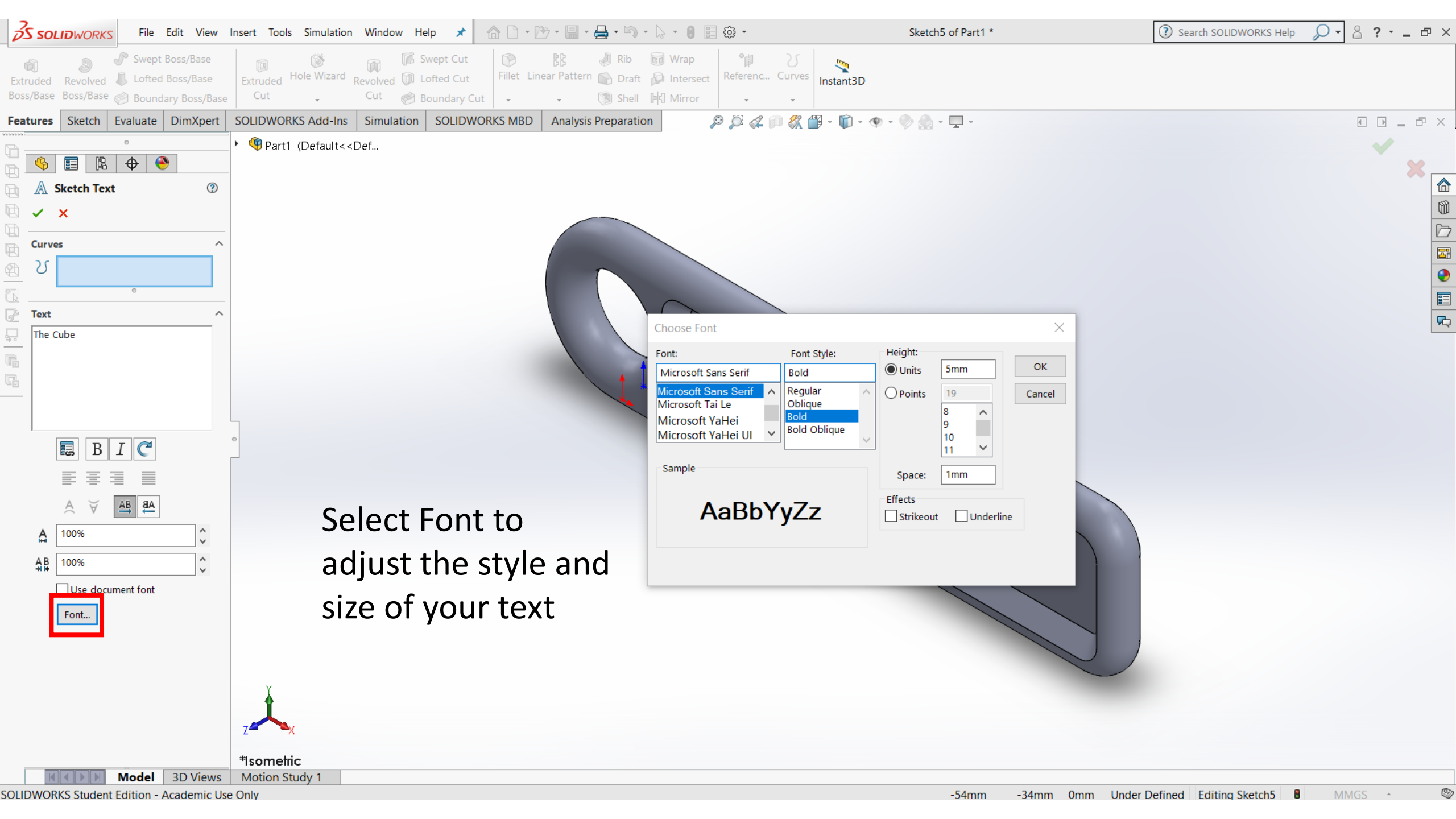


Use the Text tool to write
your name on the part



Don't forget to uncheck this box





Part1 (Default<<Def...

Sketch Text

Curves

Text

The Cube

B I

100%

100%

Use document font

Font...

Select Font to adjust the style and size of your text

Choose Font

Font: Microsoft Sans Serif

Font Style: Bold

Height: Units 5mm

Points 19

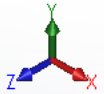
Space: 1mm

Effects

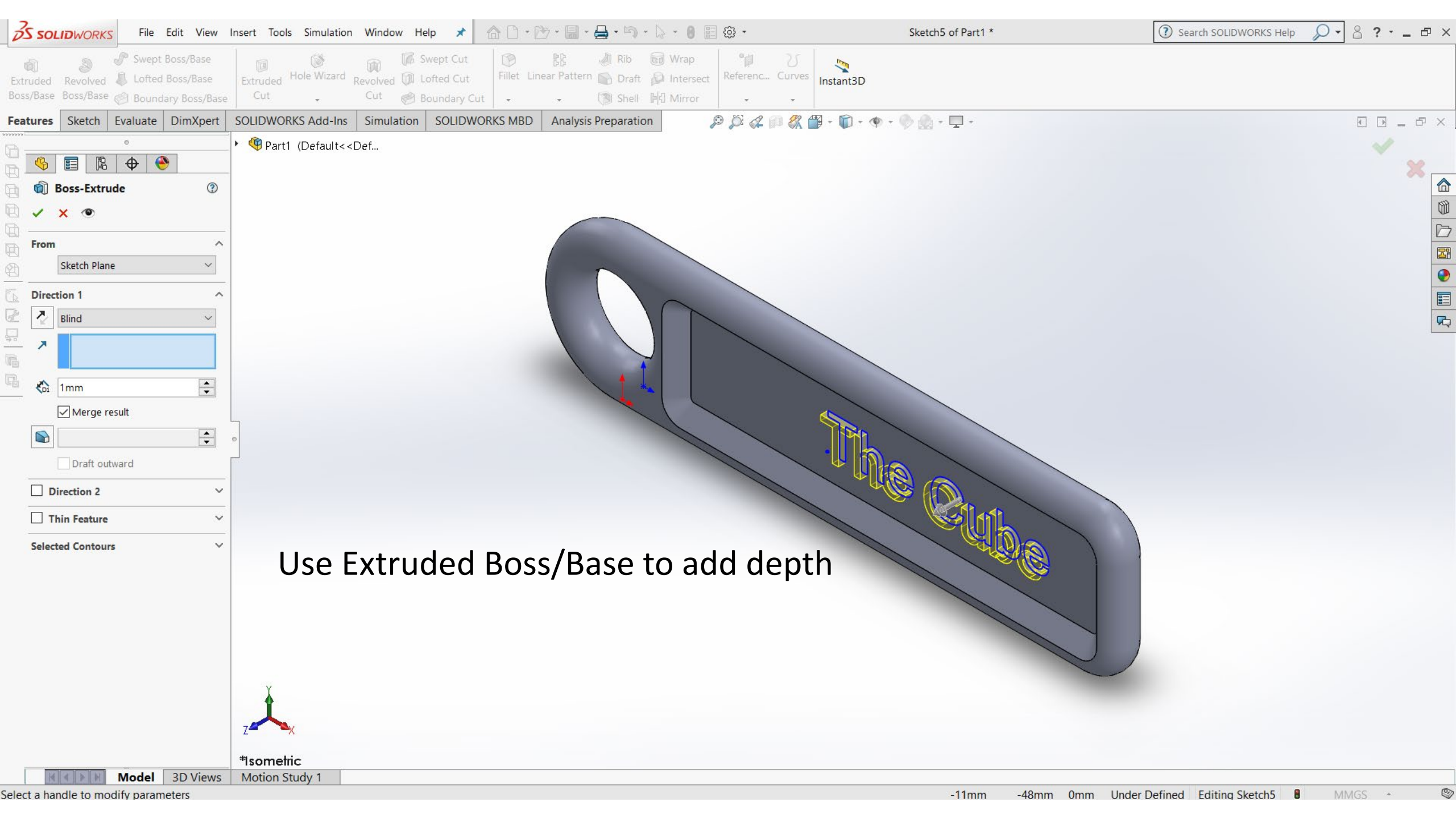
Strikeout Underline

Sample AaBbYyZz

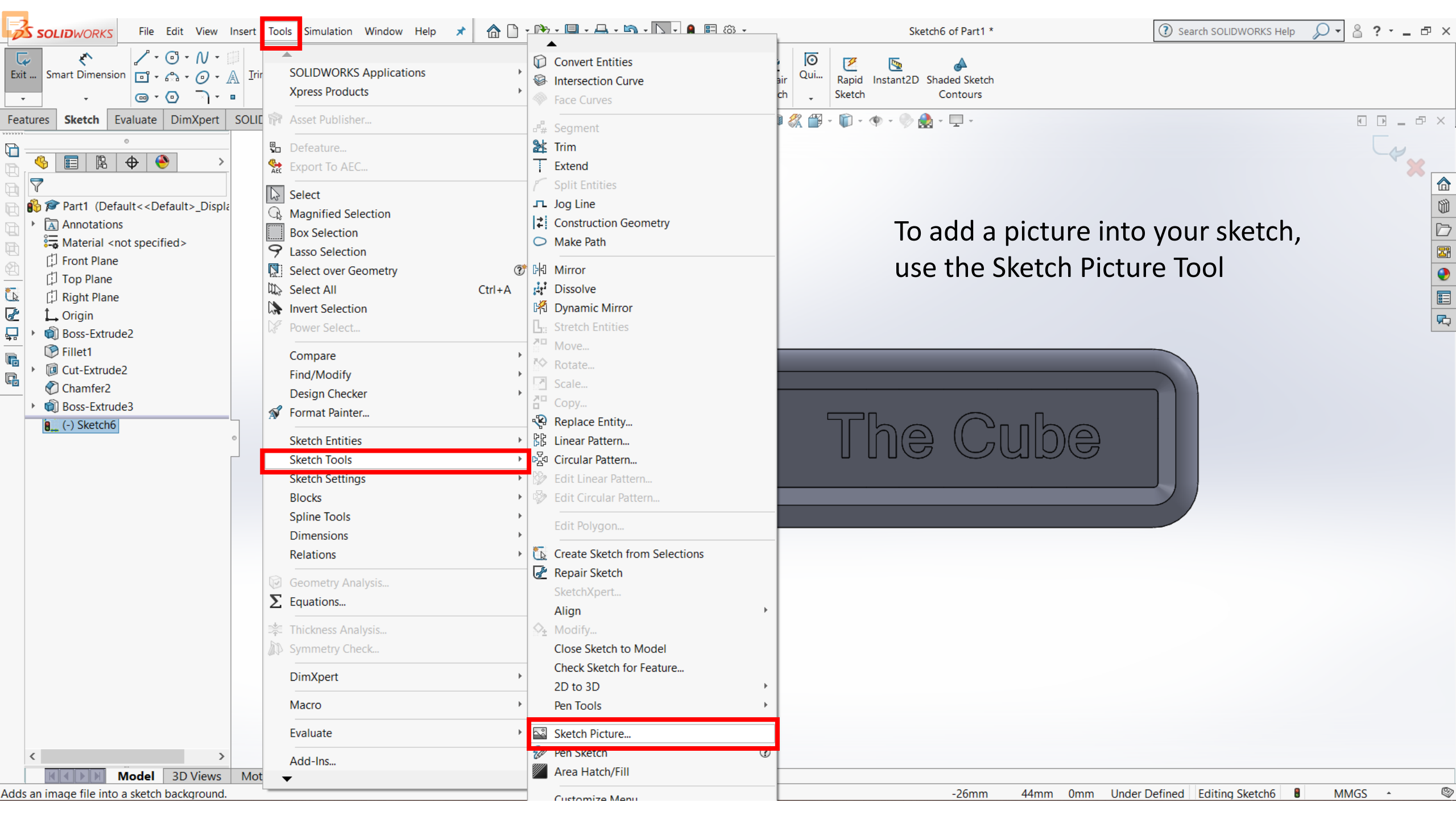
OK Cancel



*Isometric



Use Extruded Boss/Base to add depth

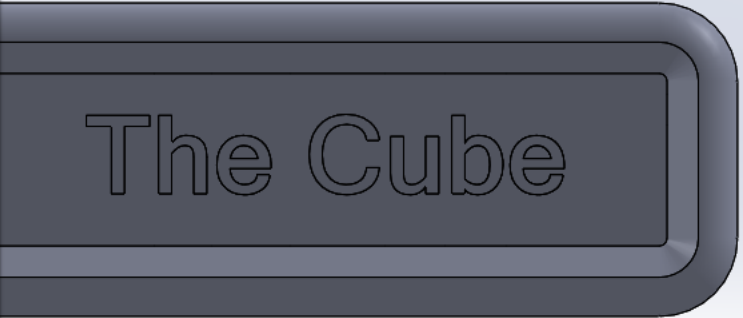


Tools

- SOLIDWORKS Applications
- Xpress Products
- Asset Publisher...
- Defeature...
- Export To AEC...
- Select
- Magnified Selection
- Box Selection
- Lasso Selection
- Select over Geometry
- Select All Ctrl+A
- Invert Selection
- Power Select...
- Compare
- Find/Modify
- Design Checker
- Format Painter...
- Sketch Entities
- Sketch Tools**
- Sketch Settings
- Blocks
- Spline Tools
- Dimensions
- Relations
- Geometry Analysis...
- Equations...
- Thickness Analysis...
- Symmetry Check...
- DimXpert
- Macro
- Evaluate
- Add-Ins...

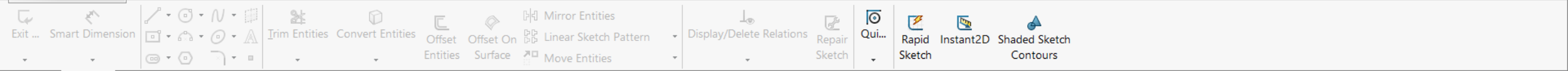
- Convert Entities
- Intersection Curve
- Face Curves
- Segment
- Trim
- Extend
- Split Entities
- Jog Line
- Construction Geometry
- Make Path
- Mirror
- Dissolve
- Dynamic Mirror
- Stretch Entities
- Move...
- Rotate...
- Scale...
- Copy...
- Replace Entity...
- Linear Pattern...
- Circular Pattern...
- Edit Linear Pattern...
- Edit Circular Pattern...
- Edit Polygon...
- Create Sketch from Selections
- Repair Sketch
- SketchXpert...
- Align
- Modify...
- Close Sketch to Model
- Check Sketch for Feature...
- 2D to 3D
- Pen Tools
- Sketch Picture...**
- Pen Sketch
- Area Hatch/Fill

To add a picture into your sketch, use the Sketch Picture Tool



Adds an image file into a sketch background.

-26mm 44mm 0mm Under Defined Editing Sketch6 MMGS



Part1 (Default<<Def..

Sketch Picture

Properties

- 12.01101026mm
- 1.05844152mm
- 0.00deg
- 14.78805769mm
- 14.78805769mm

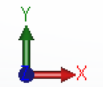
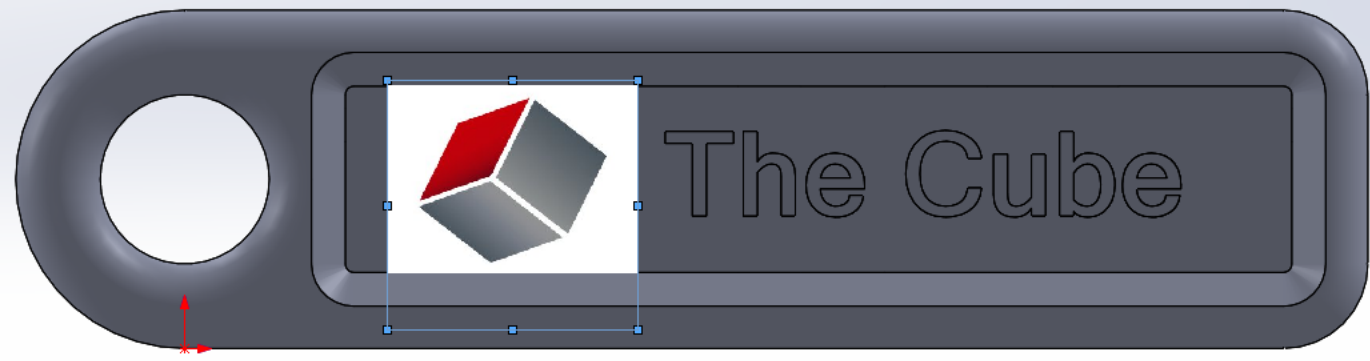
Enable scale tool

Lock aspect ratio

Transparency

- None
- From file
- Full image
- User defined

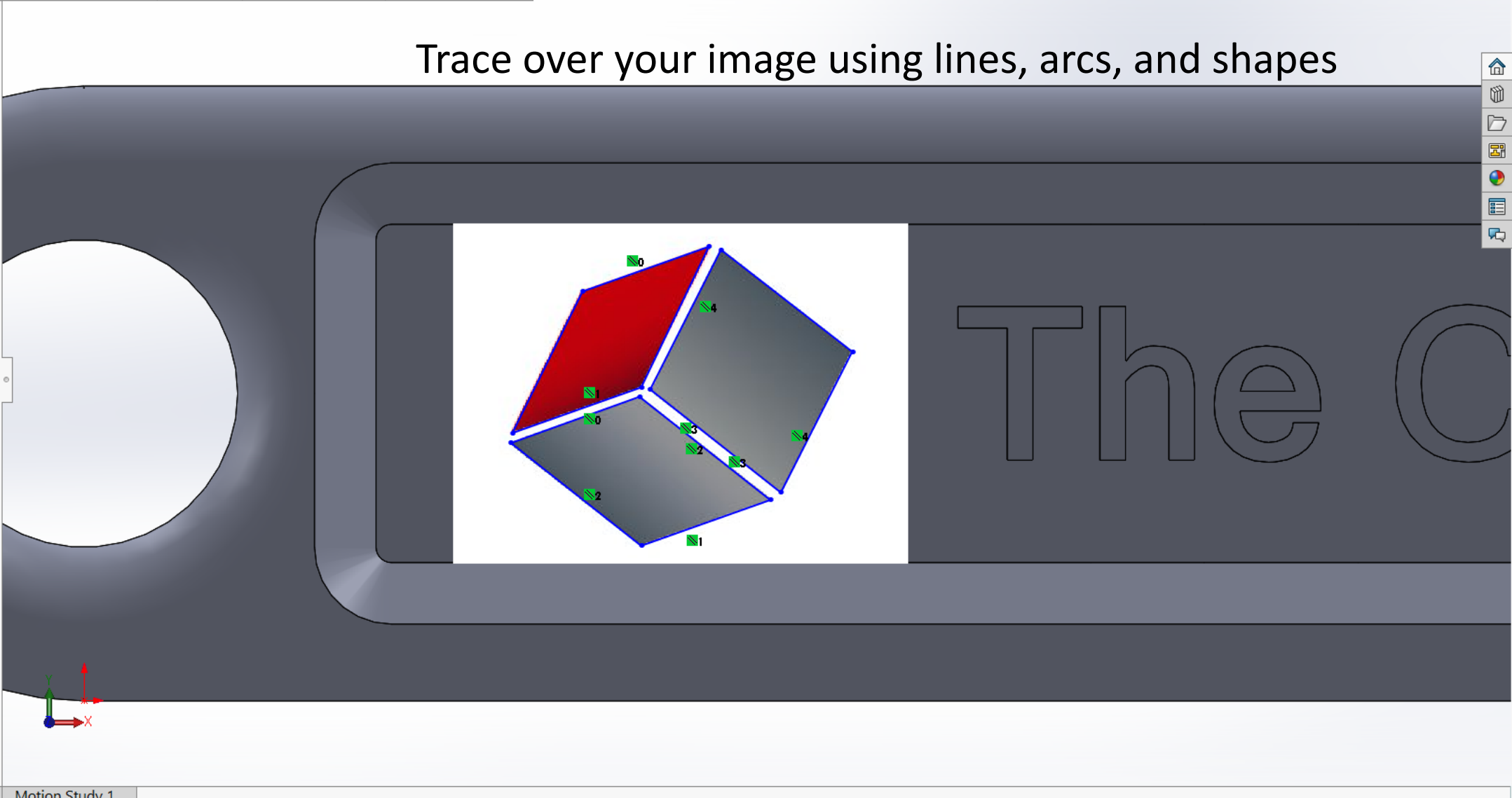
Resize and place your image

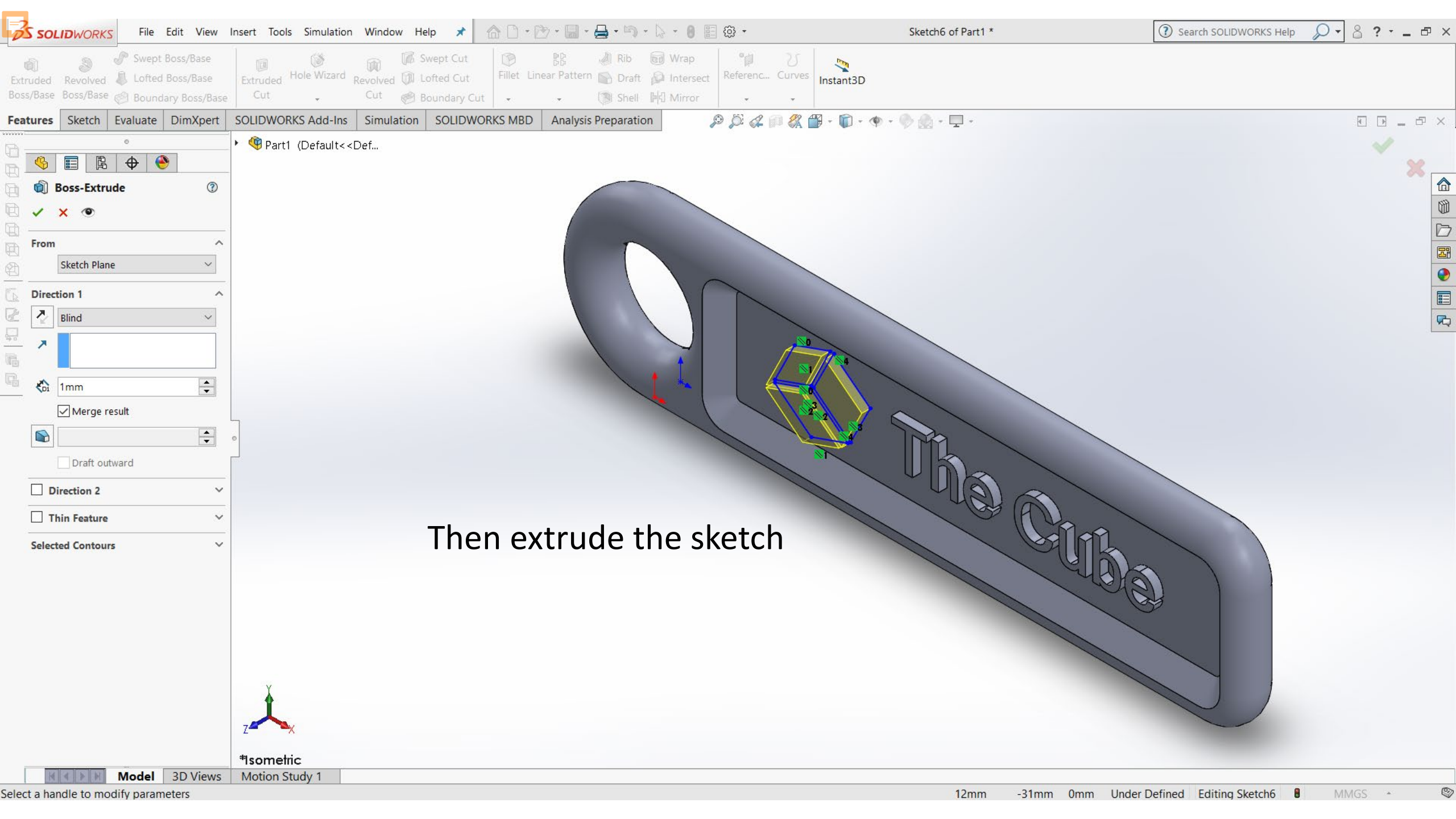


Trace over your image using lines, arcs, and shapes

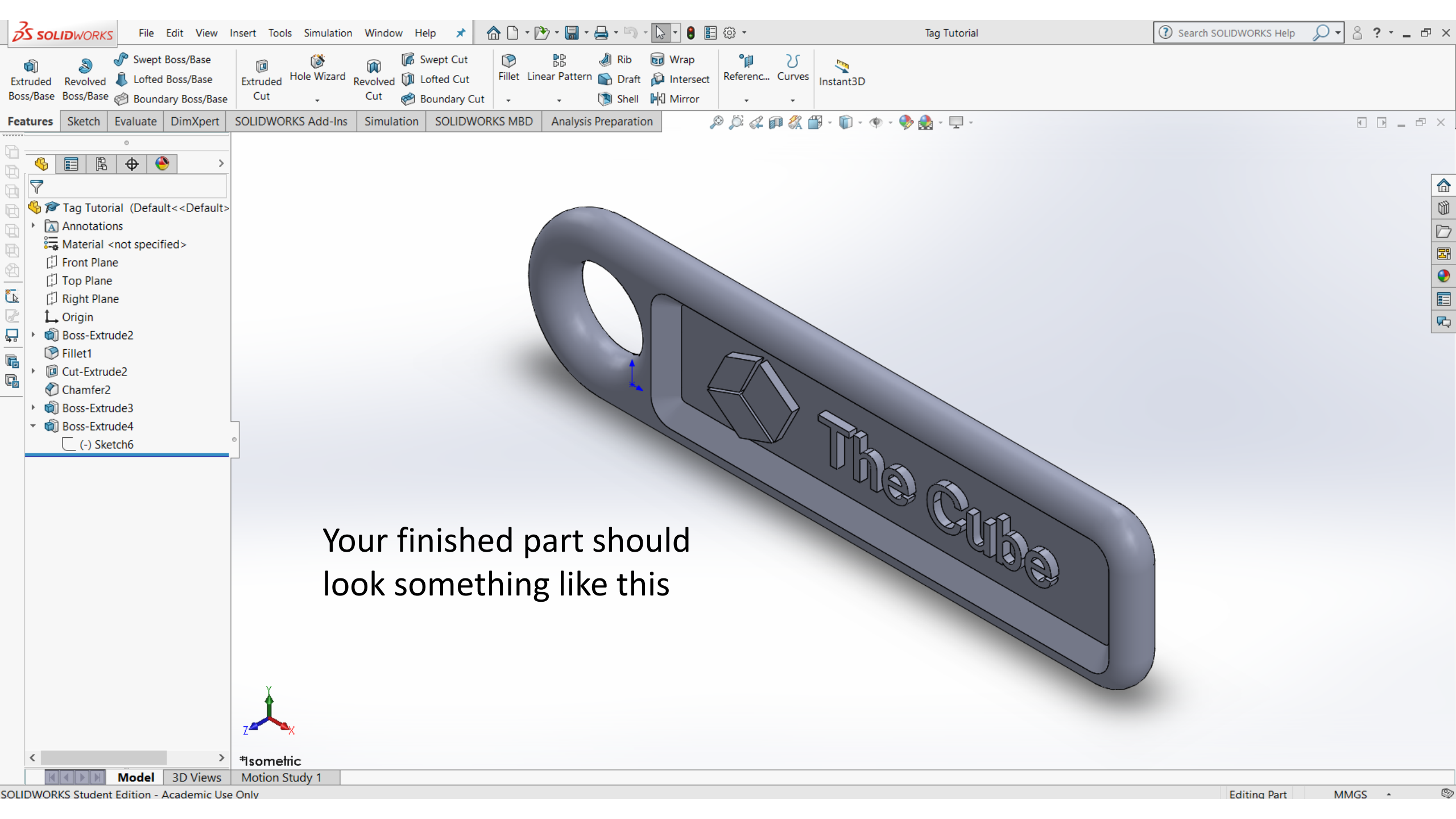
Features Sketch Evaluate DimXpert SOLIDWORKS Add-Ins Simulation SOLIDWORKS MBD Analysis Preparation

- Part1 (Default<<Default>_Displ
- Annotations
- Material <not specified>
- Front Plane
- Top Plane
- Right Plane
- Origin
- Boss-Extrude2
- Fillet1
- Cut-Extrude2
- Chamfer2
- Boss-Extrude3
- (-) Sketch6

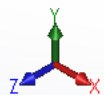


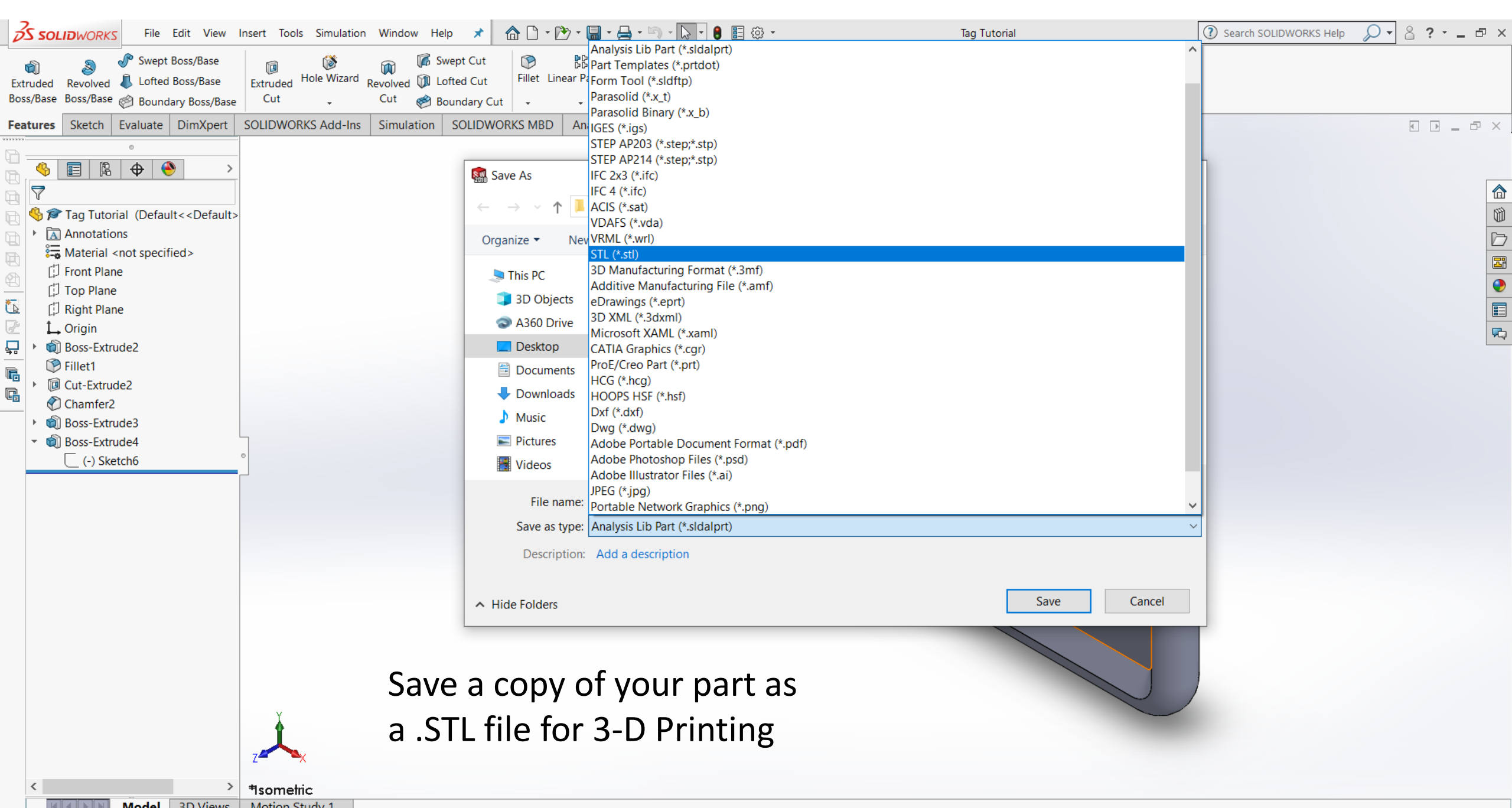


Then extrude the sketch



Your finished part should look something like this





Save a copy of your part as a .STL file for 3-D Printing

