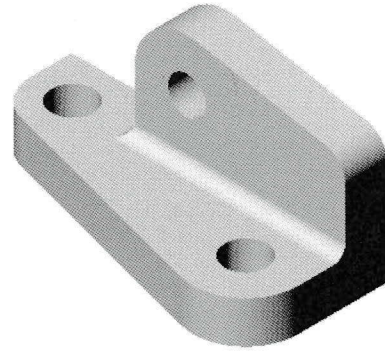


Exercise 14: Base Bracket

This lab reinforces the following skills:

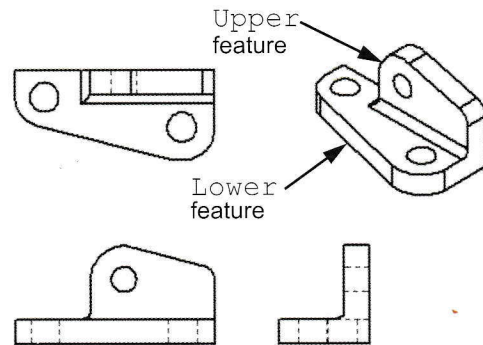
- Sketching lines.
- Adding geometric relations.
- Sketching on standard planes.
- Sketching on planar faces.
- Filleting.
- Creating cuts and bosses.
- Adding link values.



Design Intent

Some aspects of the design intent for this part are:

1. Thickness of the Upper and Lower features are equal and will remain so.
2. The holes in the Lower feature are equal diameter and will remain so.
3. The Upper and Lower features are flush along the back and right side.

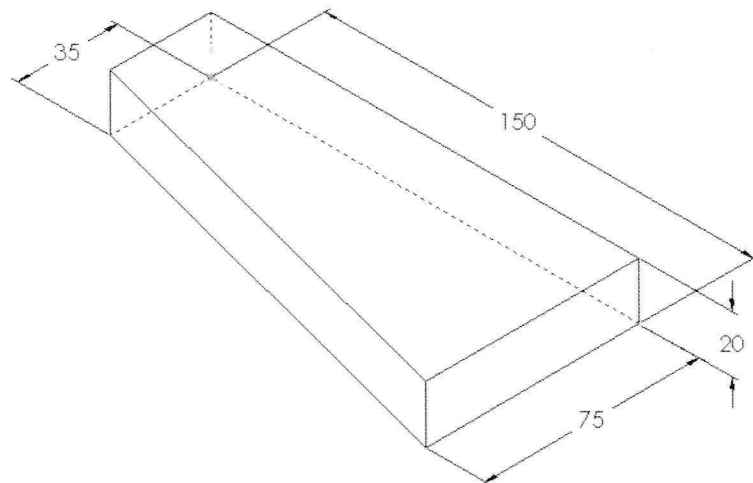


Procedure

Open a new part using the Part_MM template.

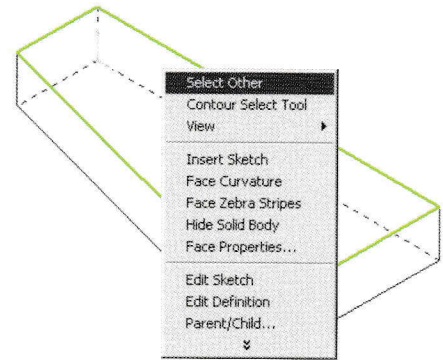
1 Create the Lower feature.

Use lines to sketch this profile. Add dimensions to fully define the sketch.



2 Select a face as sketch plane.

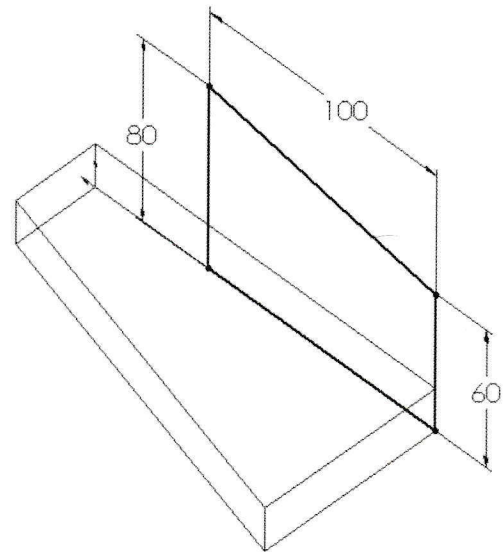
Select the rear face that is hidden by the top face of the model as the sketch plane. Use **Select Other** or rotate the view to select it.

**Select Other Procedure**

To select faces that are hidden or obscured, you use the **Select Other** option. When you position the cursor in the area of a face and press the right mouse button, **Select Other** is available as an option on the shortcut menu. When you choose that option, the system will first highlight the face *immediately behind* the one closest to the cursor. You can then accept that face or cycle through all other available faces “behind” that one until you choose the one you want. The reason the system doesn’t highlight the closest face is since that one is visible, if you wanted to select it you would have simply picked it with the left mouse button.

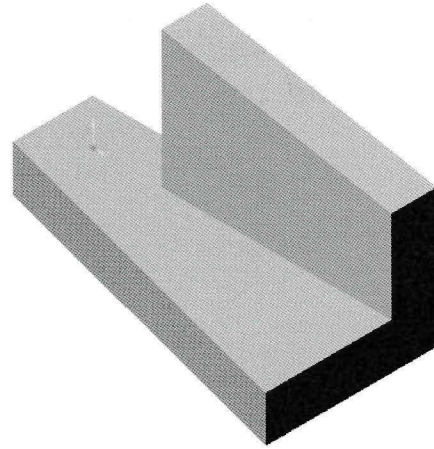
3 Create the Upper boss feature.

Sketch the lines and relate them to the existing edges where they should be coincident.



4 Extrude.

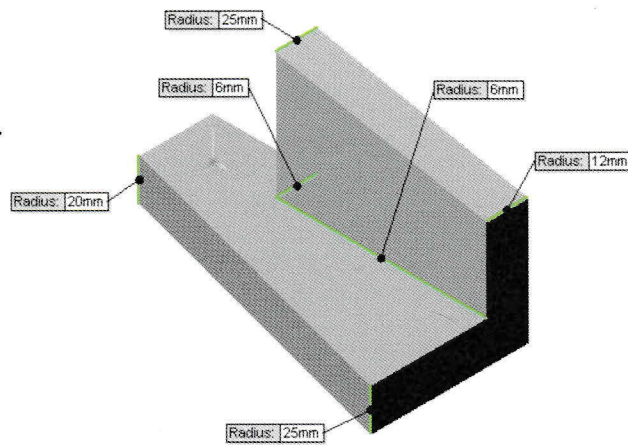
Extrude *into* the first feature a depth of **20mm**.



5 Create fillets and rounds.

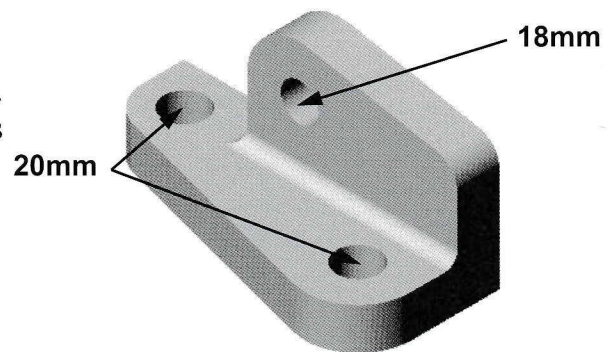
Add the fillets in as few steps as possible.

Rename the features according to fillet size.



6 Holes.

Add the holes using as few features as possible. Make sure that the holes lie concentric to the fillet radii.



7 Link values.

Use **Link Values** to maintain the design intent for the following:

- Thicknesses of the Upper and Lower features are equal.
- Diameters of the two holes in the Lower feature are equal.

8 Save and close the part.