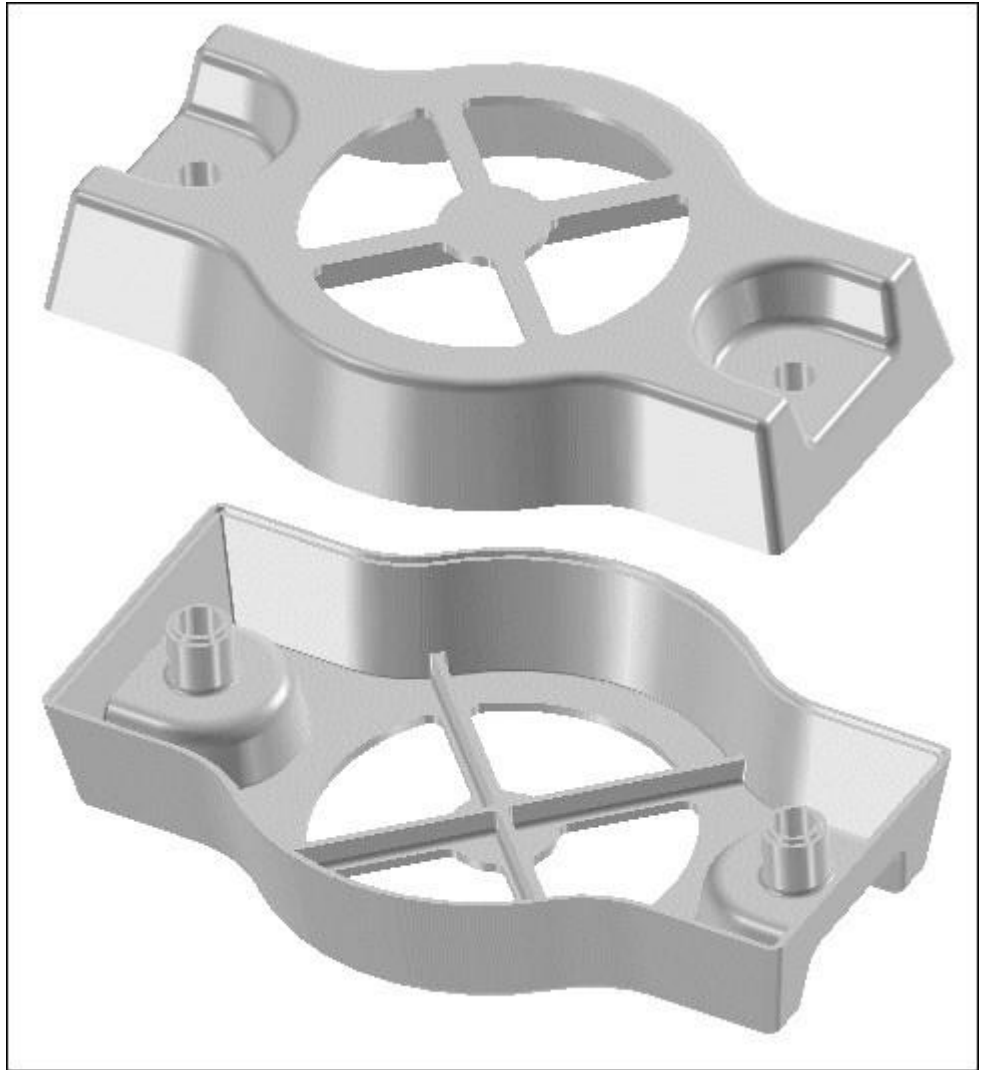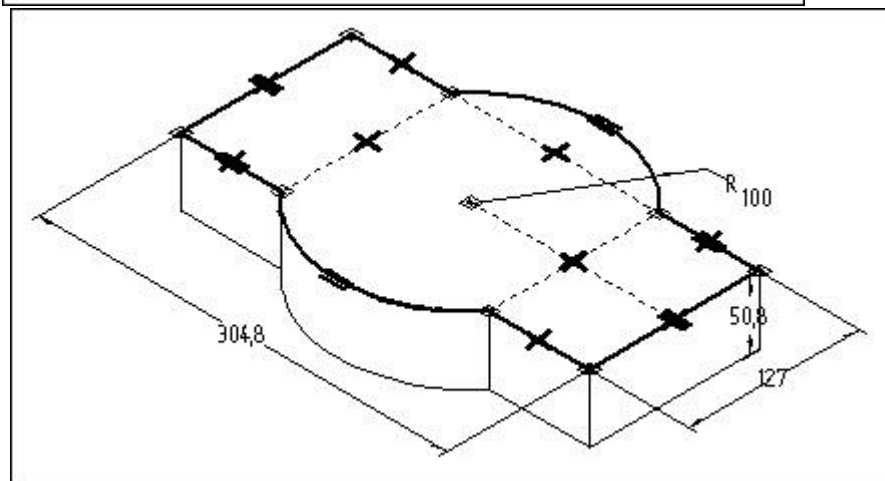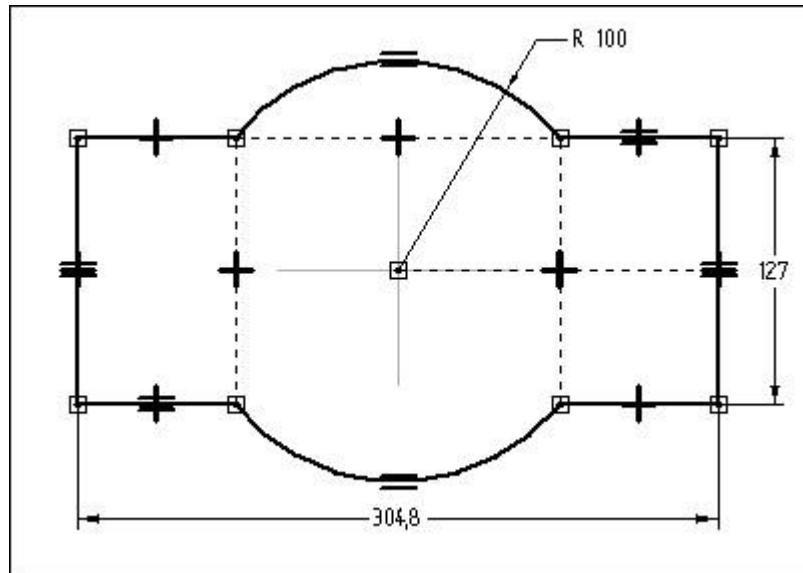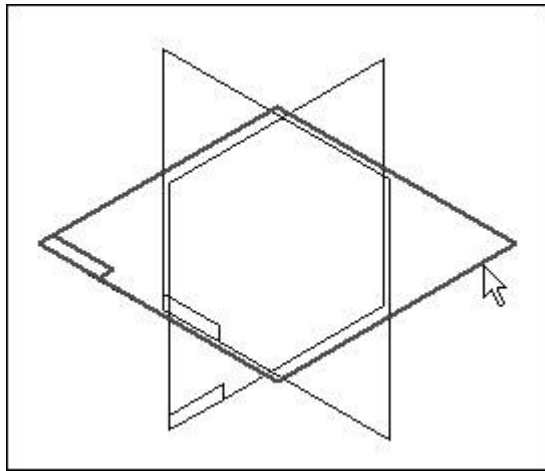# Activity 2 – Plastic Injection Molded Part

The following activity is designed to reinforce concepts examined throughout this module. This activity describes only one of many possible ways to create the part shown below.
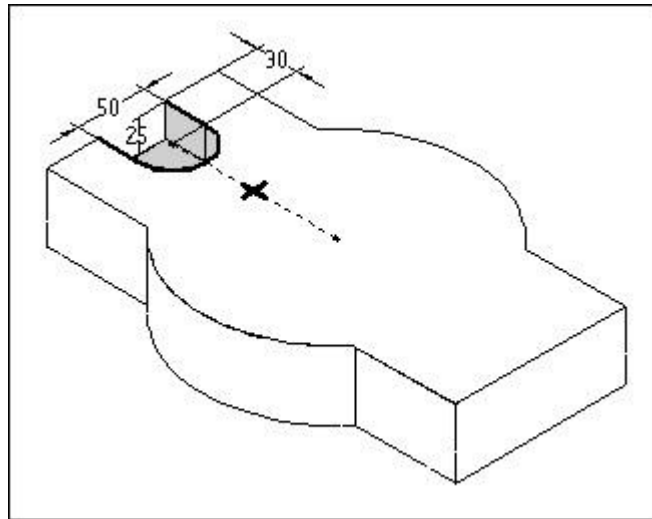

1. Create a new part file using the metric template.
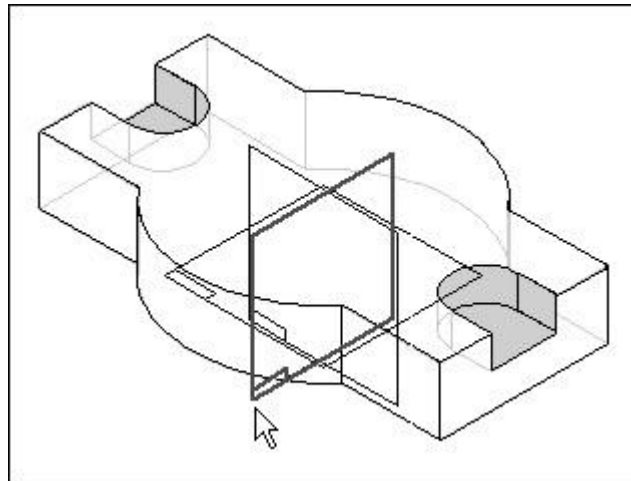
2. You will now construct the base feature.

   Construct a protrusion on the reference plane shown. Draw the profile shown and anchor and center the profile to the center of the reference plane. The protrusion height is 50.8 mm.
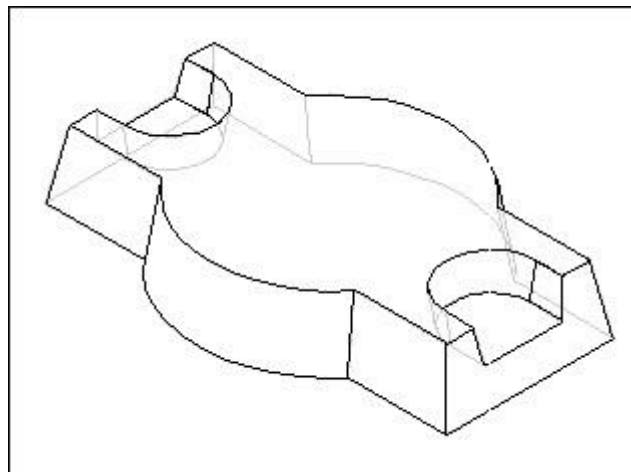
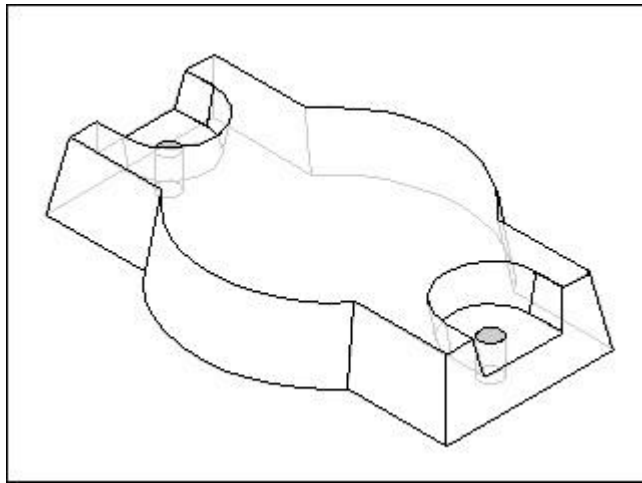3. You will now add a cutout 25 mm deep as shown.

4. Mirror the cutout you created in the previous step using the reference plane shown.
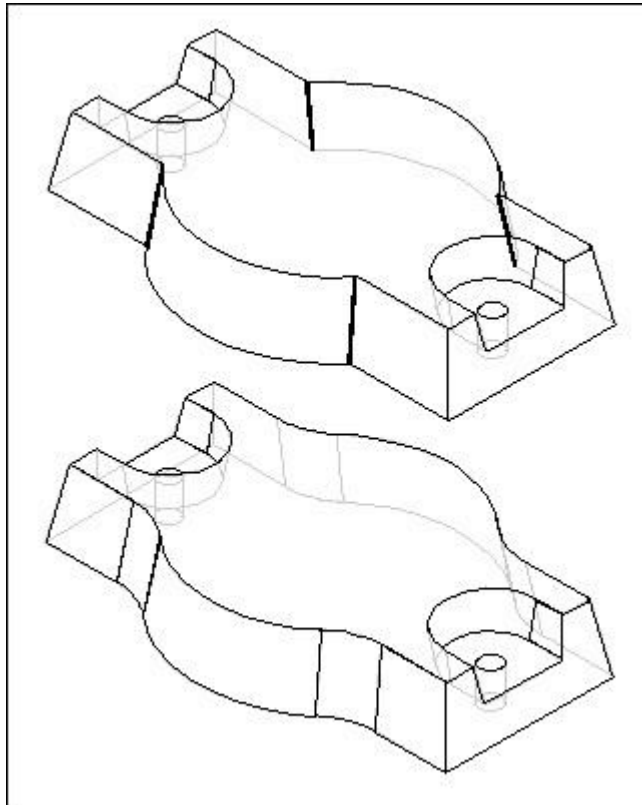

5. Add a 10-degree draft to the model. Use the bottom face of the model as the drafting plane, and draft inward from all sides perpendicular to the bottom of the model, including the sides created from the cutouts.
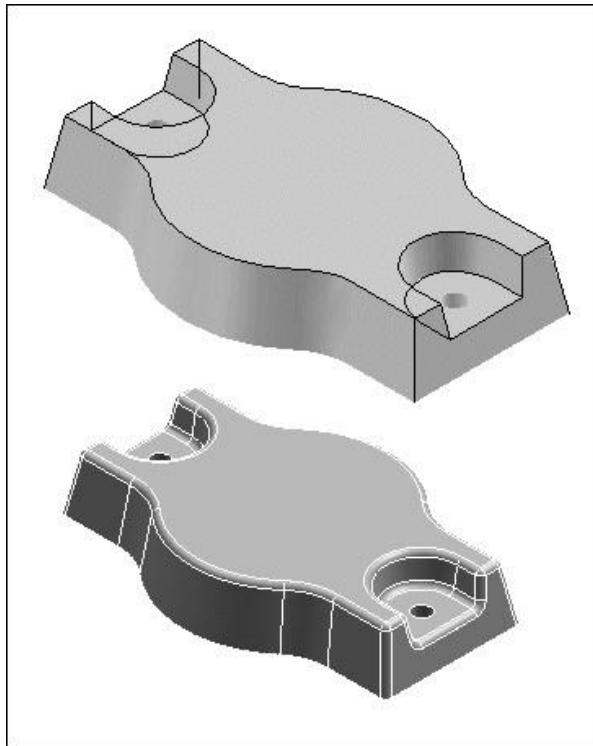

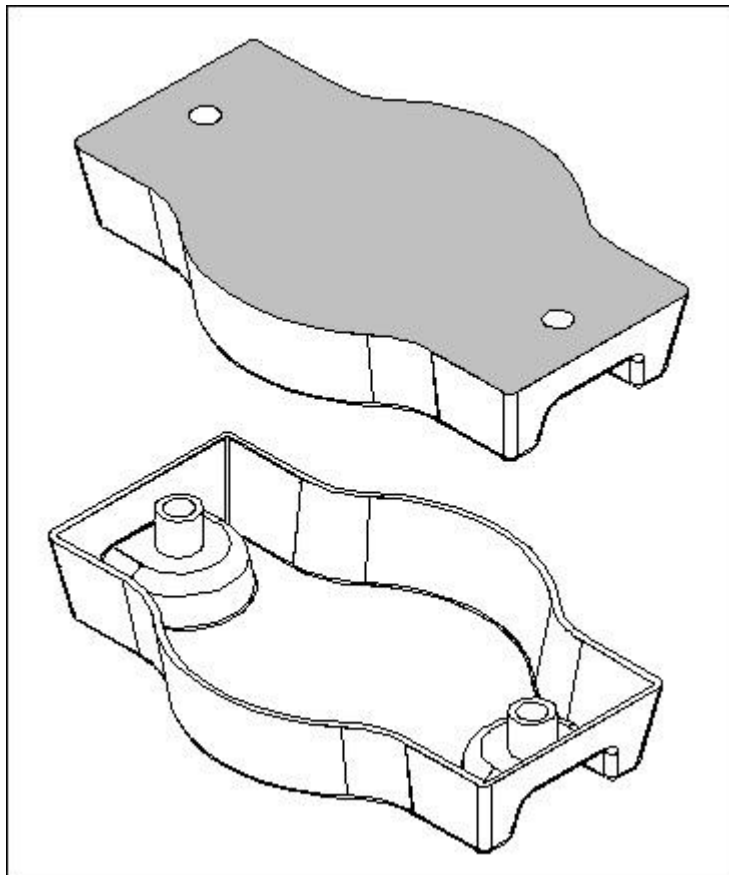6. Add two 16 mm holes centered on the arcs of the cutouts.

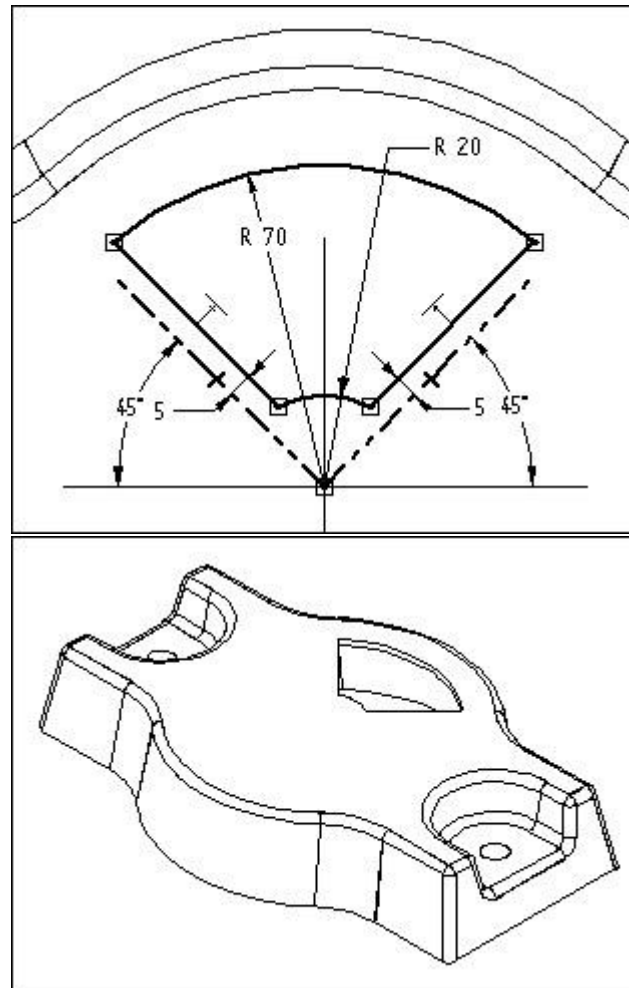7. Add a 50 mm radius round to the four edges shown in the illustration.

8. Add a 5 mm round to all edges shown in the illustration. Do not select hole edges nor edges around the perimeter of the bottom face.
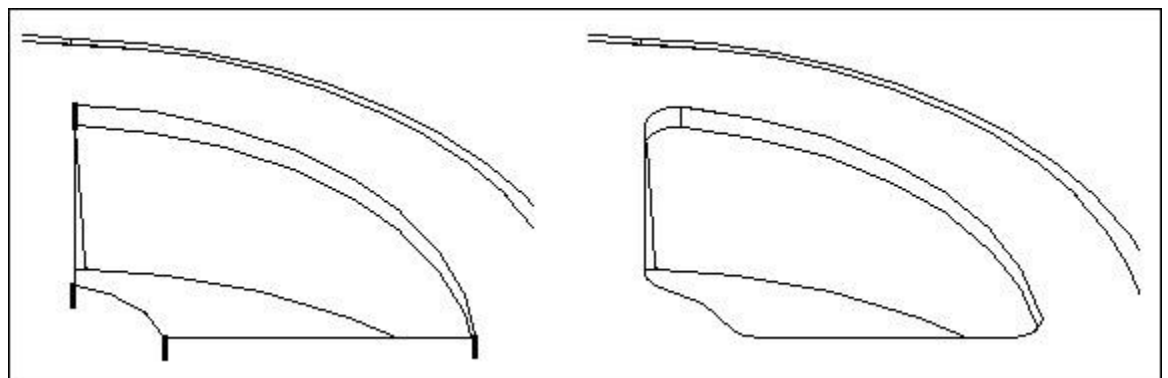
9. Thin wall the model, specifying a wall thickness of 4 mm. Leave the bottom face of the model open. To view the thin wall result more clearly, the model shown in the illustration has been rotated 180-degrees.
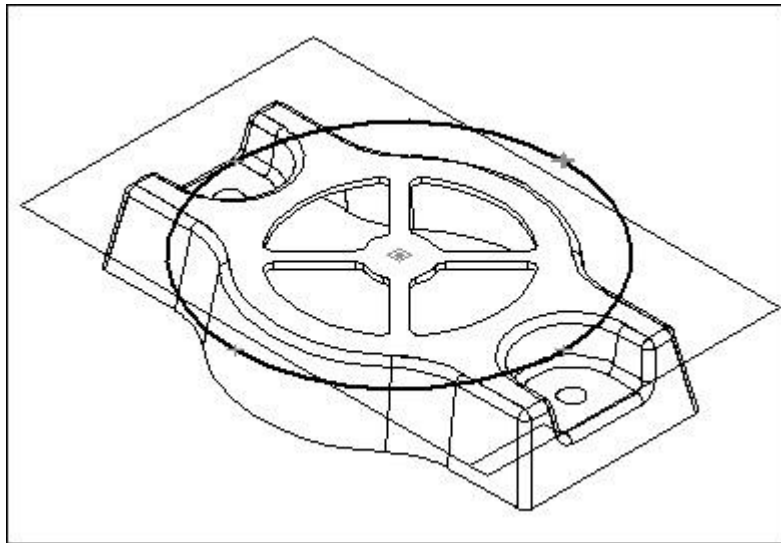
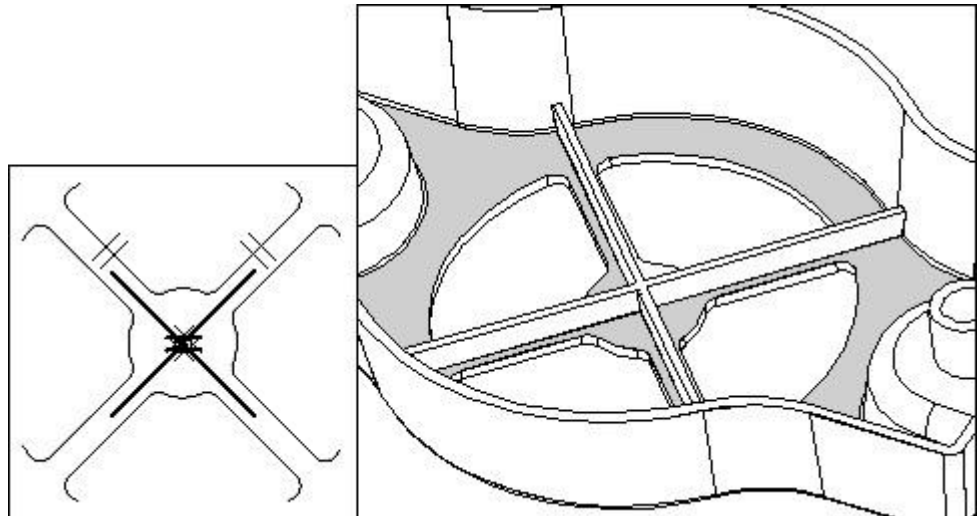10. Use construction geometry to construct a cutout as shown.

11. Add a 5 mm radius round to the four thickness edges created by the cutout you constructed in the previous step.
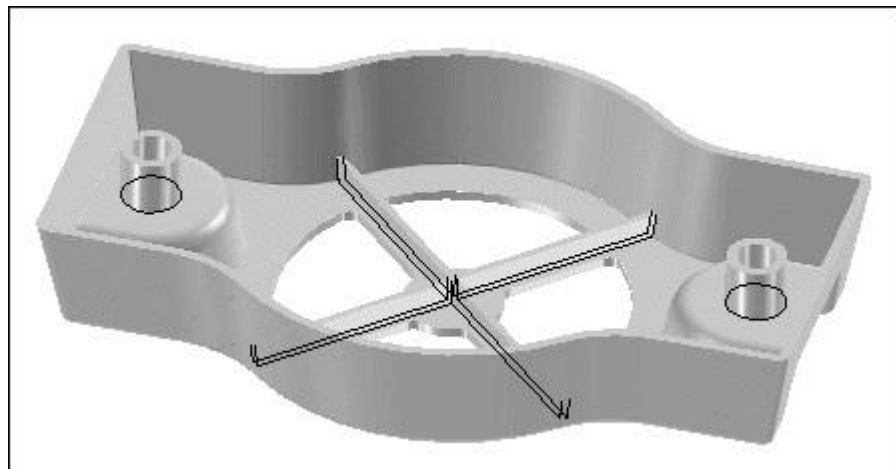

12. Create a circular pattern using the cutout and the rounds you created in the previous two steps. The pattern should have four evenly spaced instances as shown in the illustration.
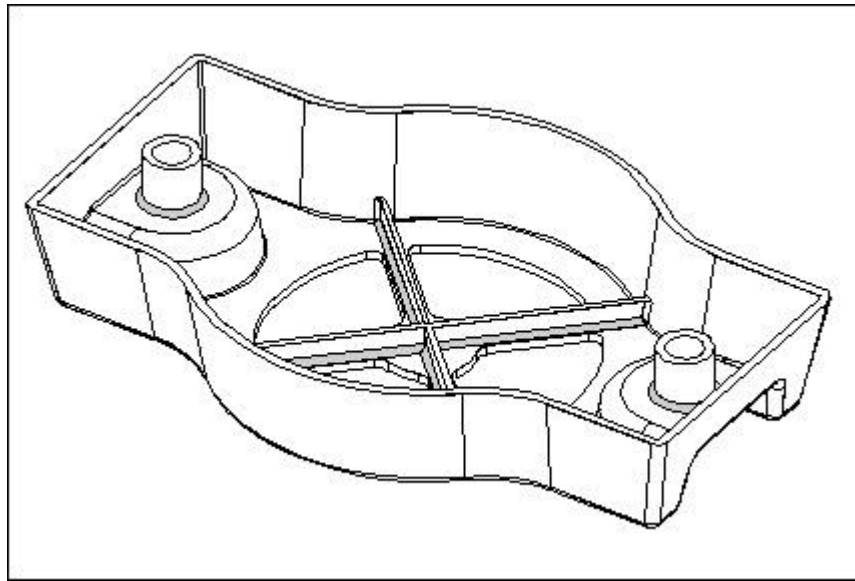
13. Construct reinforcement ribs as shown. Use the Web Network command with a parallel reference plane 10 mm off the face shown in gray. Make the ribs 3 mm thick.
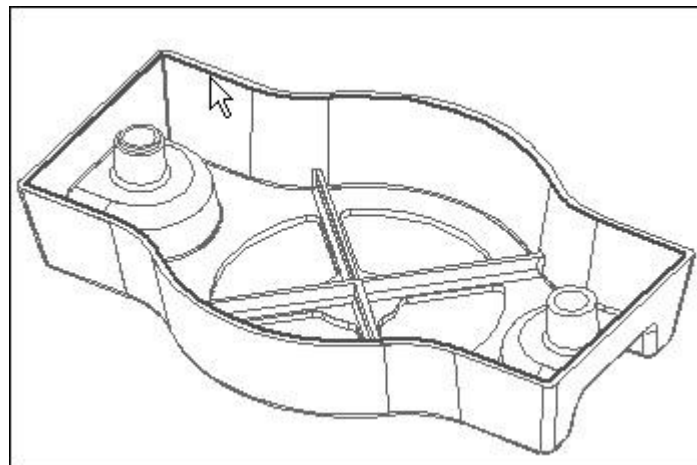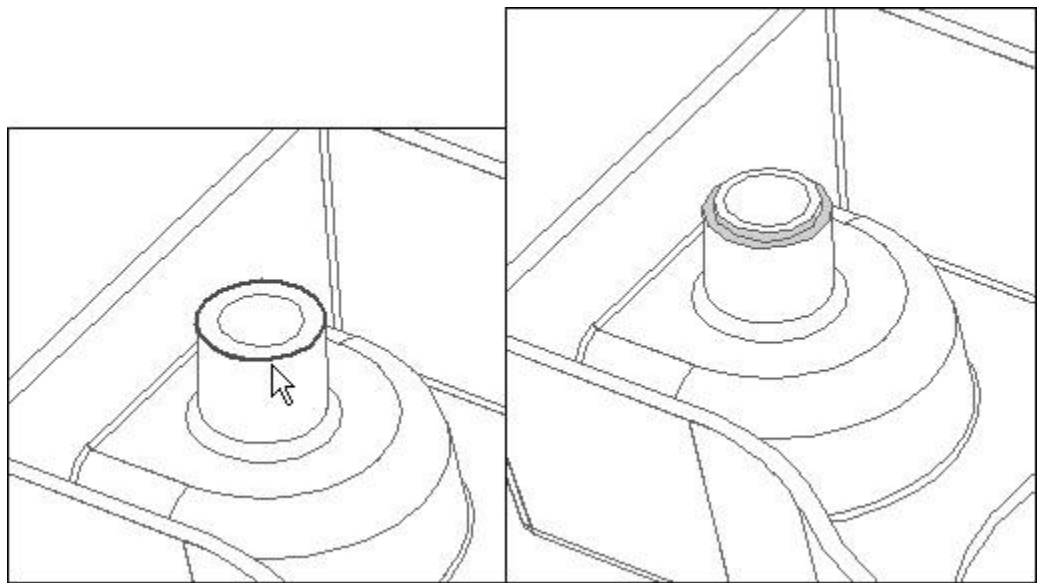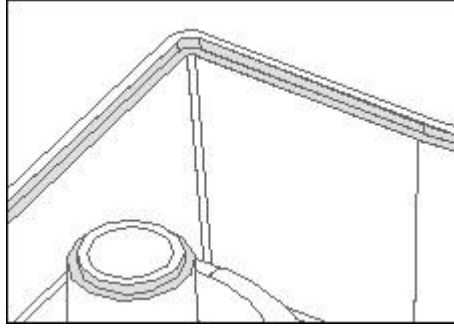

14. Add a 2.5 mm radius round to the edges of the ribs and the bosses.

15. Add a 2 mm square groove to the perimeter of the model's bottom and a 2 mm lip to the bosses. Use the Lip command for this.

16. Save and close the file. This completes the activity.