

Practical 9 – Drawing circumferences and tangents

- Draw circles
- Copy objects
- Draw tangent curves using the Fillet tool (inside the modify button)
- Draw parallel lines using the parallel tool.
- Divide objects using the “Divide” tool in the modify section.
- Scale option
- Move option
- Edit a written text (Tools, modify, properties)
- Prepare and print your drawing.

Exercise 1 – Drawing the main object

1. Open a copy of the “A4_landscape_template.dxf” file you can find in the Scholl website. Rename the file as “practical_9.dxf”.
2. Select the “Main drawing” layer.
3. We are going to start our design by drawing a circle. To do so, select the “Center, radius” option inside the circle button in the “Categories” toolbar (the one on the left side of your screen).
4. In the top part of the program window, select 10 as the Radius value and draw a circle inside the drawing sheet limits.
5. Taking the center of the previous circumference draw horizontal line, 70 mm long.
6. Copy now the circle and paste its center at the end of the previous line. You must have something similar to:



7. Using the “Parallel” option in the “line” button draw two parallel lines to the one that you already have. The distance between each new line and the original line has to be 5 mm.
8. Now you can delete the first line. The result has to be:



9. We want the connections between the horizontal lines and the circles to be tangent curve. Select the “Fillet” tool inside the modify button. You need to use a 60 mm radius for the arc:



10. Now you need to draw two new circles. The radius for these circumferences has to be 5 mm. The centers have to be the same centers you have for the previous circumferences:

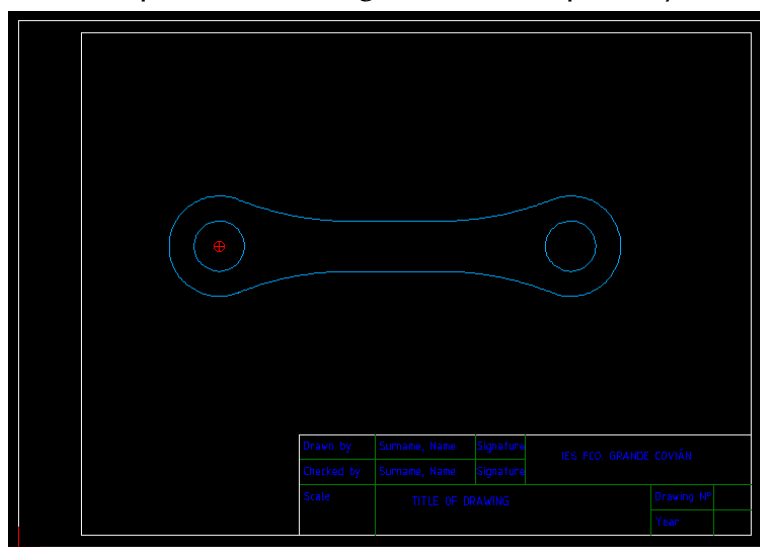


11. Now using the “Divide” tool inside the modify section, you need to obtain this drawing:



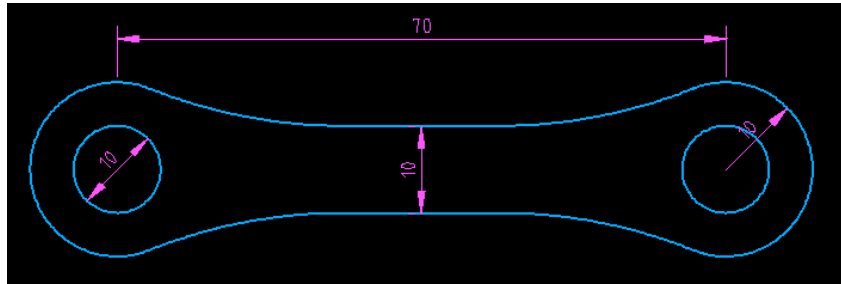
Exercise 2 – Adding dimensions

1. The previous drawing is too small for the drawing sheet you are using. Use the scale option to change its size. Use a 2:1 Scale.
2. Use the move tool to place the drawing in the central part of your drawing sheet:



3. Go to the “Current drawing preferences” options and change the “Length Factor” to 0.5. The reason for that is that we are using a 2:1 enlargement Scale, so we need to divide by 2 the dimensions values the program is going to calculate.

- Change the arrowhead size to 2 and the Text Height to 1.25.
- Add the following dimensions:



Exercise 3 – Title box

- To edit the original text you must select the Tools option in the top menu, then select modify and properties. The mouse pointer will change to a cross. Left click on the text you want to edit and write the new content.
- Change the information in the title box for your drawing to something similar to:

Drawn by	Student name	Signature	IES FCO. GRANDE COVIÁN	
Checked by	José A. Sallán	Signature		
Scale 2:1	Drawing circumferences and tangents			Drawing N° 9
				Year 2024

Exercise 4 – Print PDF

- Save the file with your exercise.
- Prepare your drawing to be printed in black and white.
- Print the result in pdf.
- Send both your files as attachments to your Google Classroom task.