

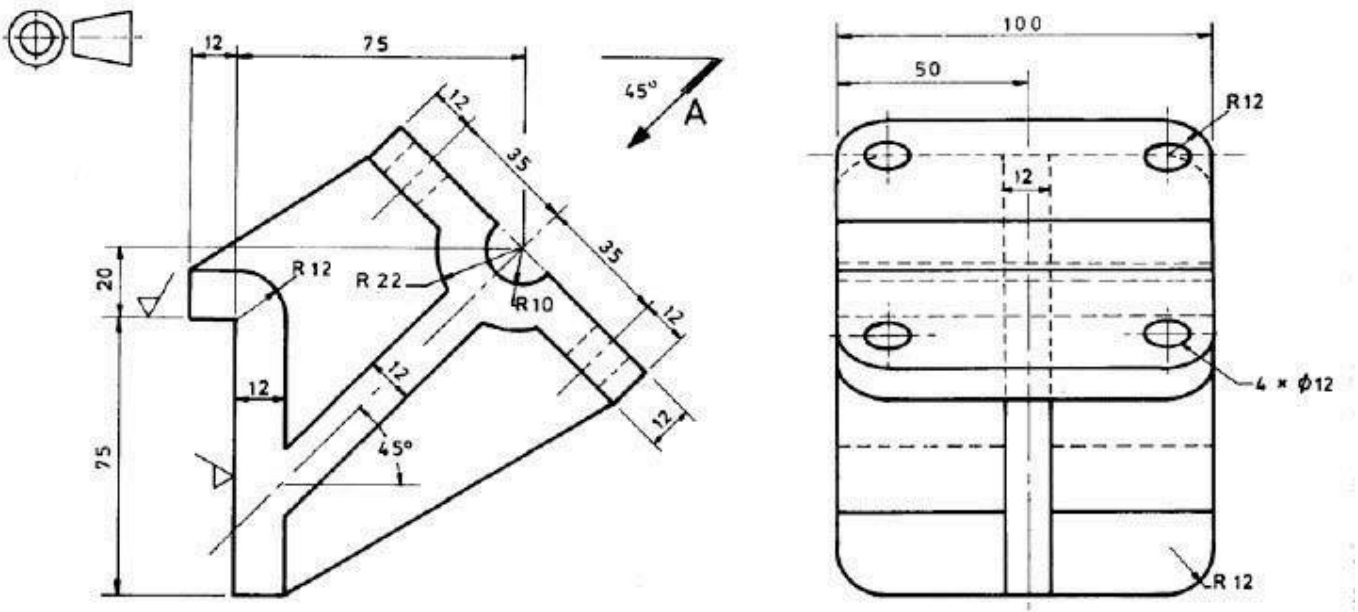
7 – ADDITIONAL TECHNIQUES

By following this tutorial, you will learn how to:

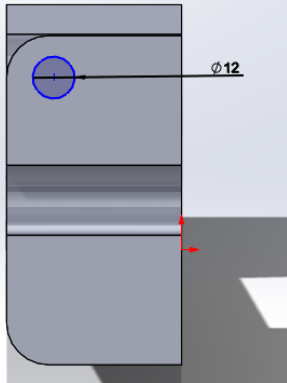
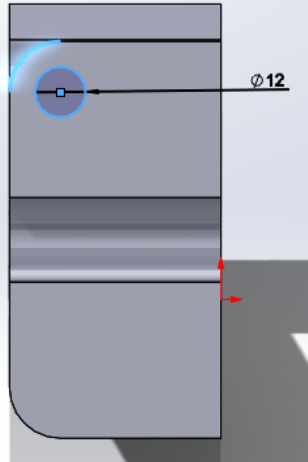
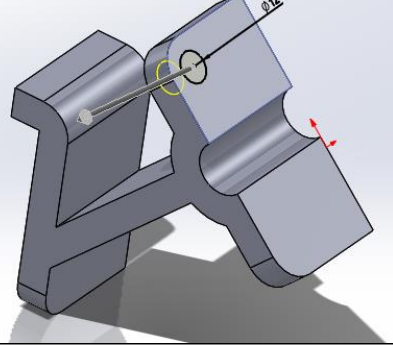

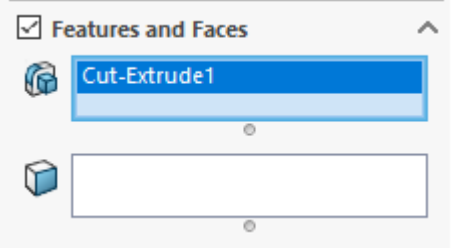
1. Create a pattern
2. Use the rib tool
3. Use the mirror tool
4. Create an auxiliary view

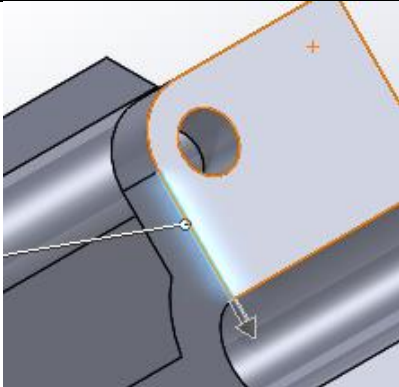
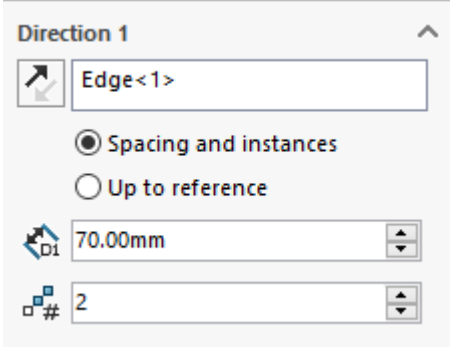
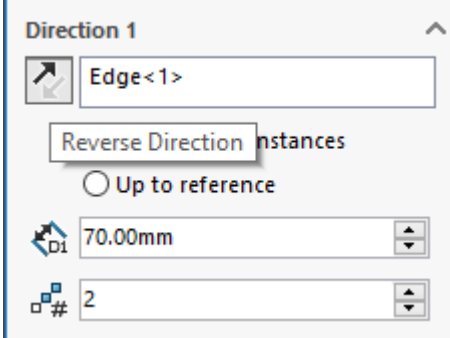
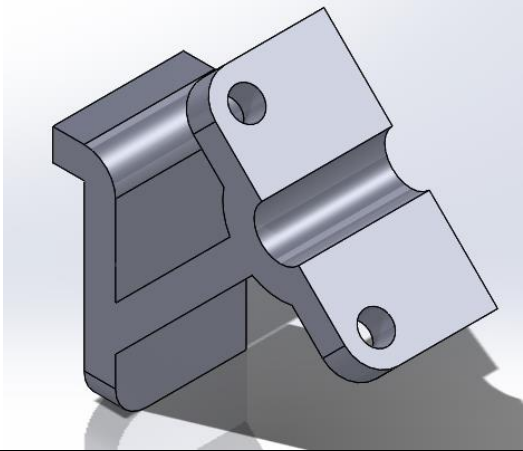
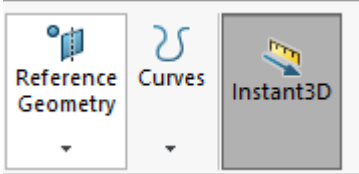
To illustrate these techniques, the following example will be used.

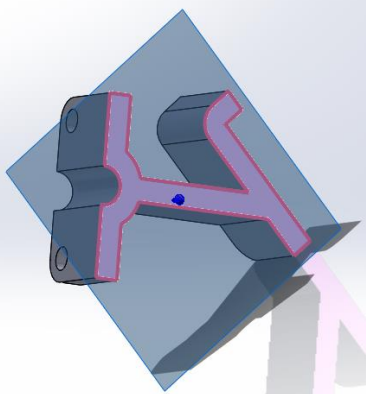
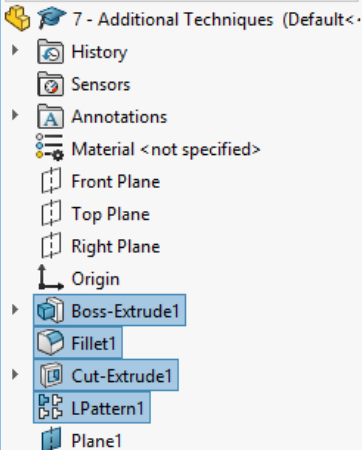

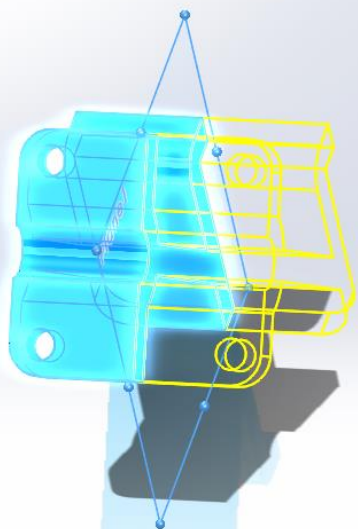

Angle bearing bracket

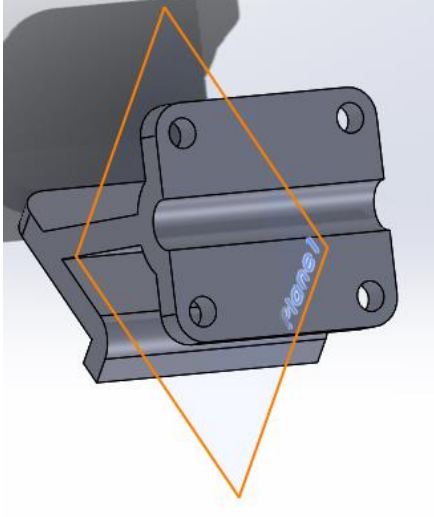
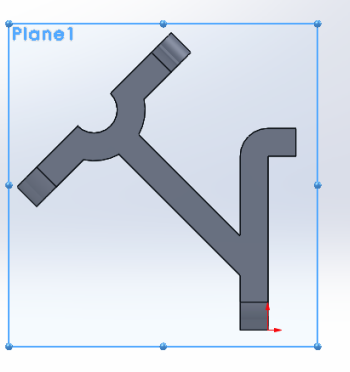
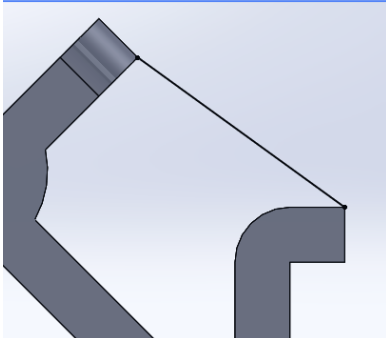
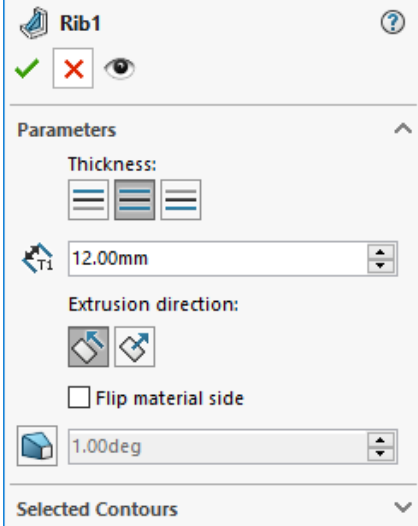


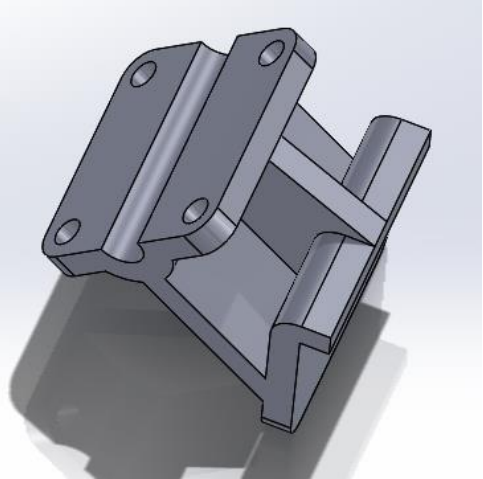
Insert and move parts in an assembly		
No.	Instruction	Screenshot
1	<p>Open a new part file.</p> <p>Create the front view of the part as shown.</p>	
2	<p>Extrude the sketch to half of the total length (50mm).</p>	
3	<p>Create the 12mm fillets using the Fillet tool.</p>	
4	<p>Change the View Orientation to Normal To the angled surface</p>	

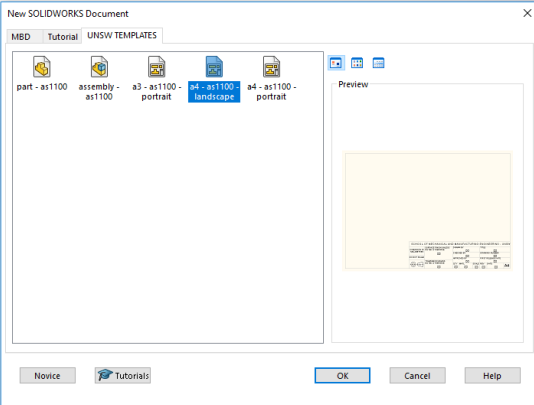
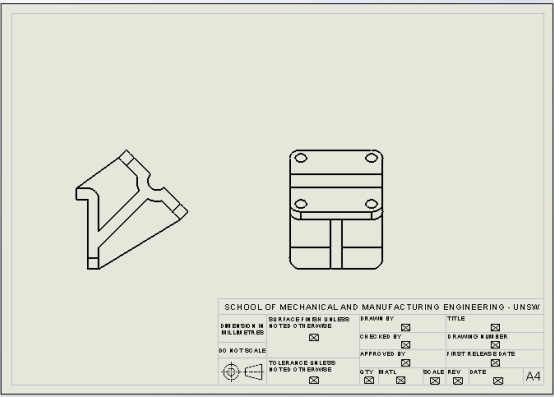
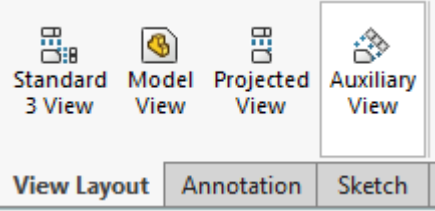
5	<p>Select the Sketch button in the Sketch tab.</p> <p>Create a circle of diameter 12mm.</p>	
6	<p>Insert a concentric relation from the existing fillet.</p>	
7	<p>Select the Extrude Cut tool in the Features tab,</p> <p>Extrude cut the circle using Up to Next.</p> <p>Click OK to confirm.</p>	
8	<p>Select the Linear Pattern tool from the Features tab.</p>	
9	<p>Under Features and Faces, select the circular cut in the Features box.</p>	

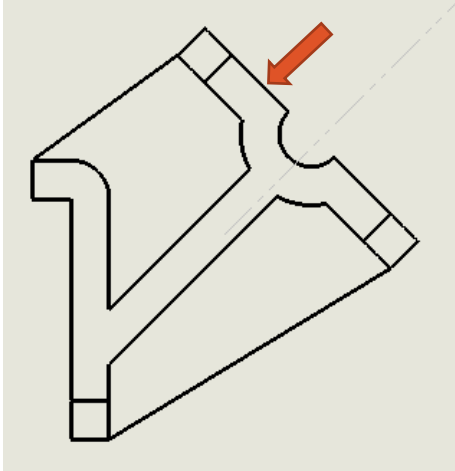
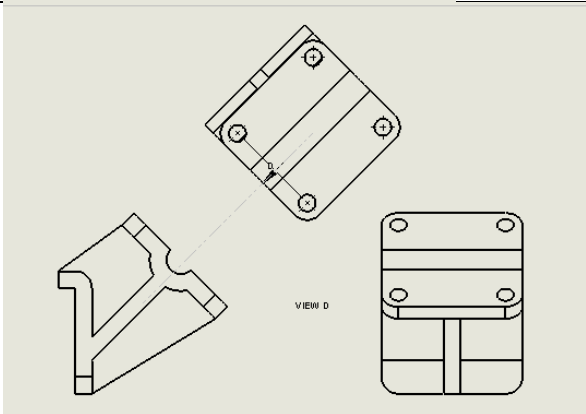
10	Under Direction 1, select an edge in the direction of pattern as shown.	
11	Enter 70mm as the distance. Ensure that the Number of Instances equals 2.	
12	Click the Reverse Direction button to change the direction of the pattern.	
13	Click OK to confirm.	
14	Click on the Reference Geometry button in the Features tab.	

15	<p>Create a reference plane on the centre of the part.</p> <p>Ensure that the new plane is coincident to the existing surface.</p>	
16	<p>Using the Control key on the keyboard, select all of the pre-existing features in the tree.</p>	
17	<p>Click the Mirror button in the Features tab.</p>	
18	<p>Select the mirror plane at the centre of the part</p> <p>Click OK to confirm.</p>	
19	<p>Click the Rib button in the Features tab.</p>	

20	Select the plane at the centre of the part.	
21	Change the View Orientation to Normal To the centre plane.	
22	Create a line to represent the location of the rib. Click the Exit Sketch button to exit the sketch.	
23	Under Thickness, select Both Sides. Change the thickness to equal 12mm. Ensure the Extrusion direction is Parallel to Sketch. Ensure the material side is towards the part. Click OK to confirm.	

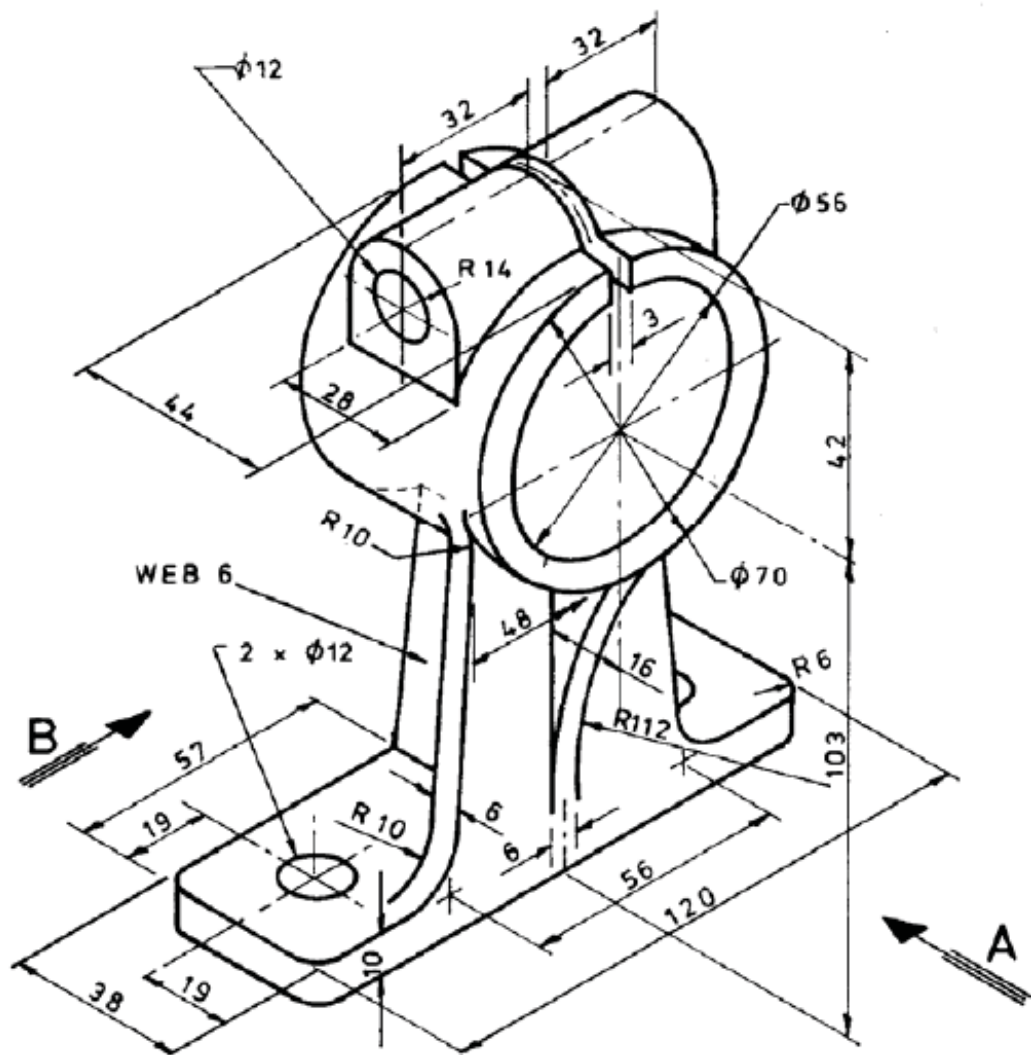
24	Repeat the process on the other side.	
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Create an auxiliary view		
No.	Instruction	Screenshot
1	Create a new A4 landscape drawing.	
2	Create the front and right side view of the angle bearing bracket made above.	
3	Click the Auxiliary View button in the View Layout tab.	

4	Select the Reference Edge to create the Auxiliary View.	 A 3D perspective drawing of a mechanical part, possibly a bracket or a small housing. A red arrow points to a specific edge on the top surface of the part, indicating it as the reference edge for creating an auxiliary view.
5	Place the Auxiliary View in an appropriate location. Ensure you meet the AS standards when creating an Auxiliary View.	 A diagram showing the auxiliary view (labeled 'VIEW D') placed next to the main view. The auxiliary view is a 2D projection of the part, showing the internal features and the reference edge. The main view is a 3D perspective drawing of the part. The auxiliary view is placed to the right of the main view, and a dashed line connects the reference edge to the auxiliary view.

Exercises:

Shaft bracket



Support bracket

