AUTODESK.

Lesson: Create a sketch path
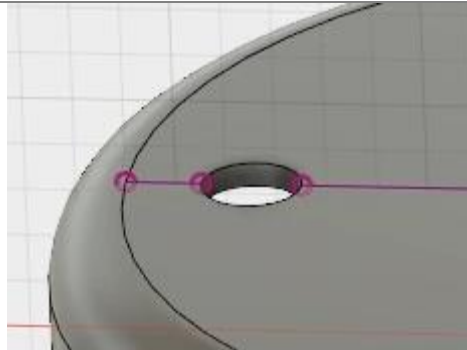
In this lesson, you will create the lamp arm using various sketch tools.

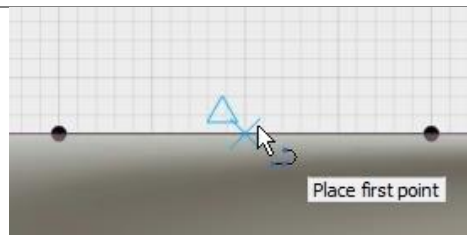**Learning Objectives:**

- Create a sketch spline.
- Create a sketch intersection.
- Add a coincident constraint.

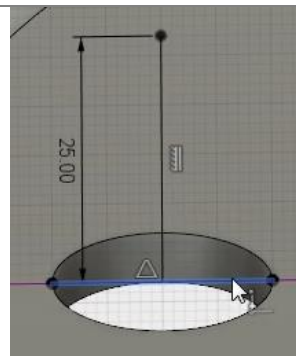### Step 1: Create the lamp arm

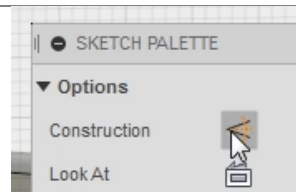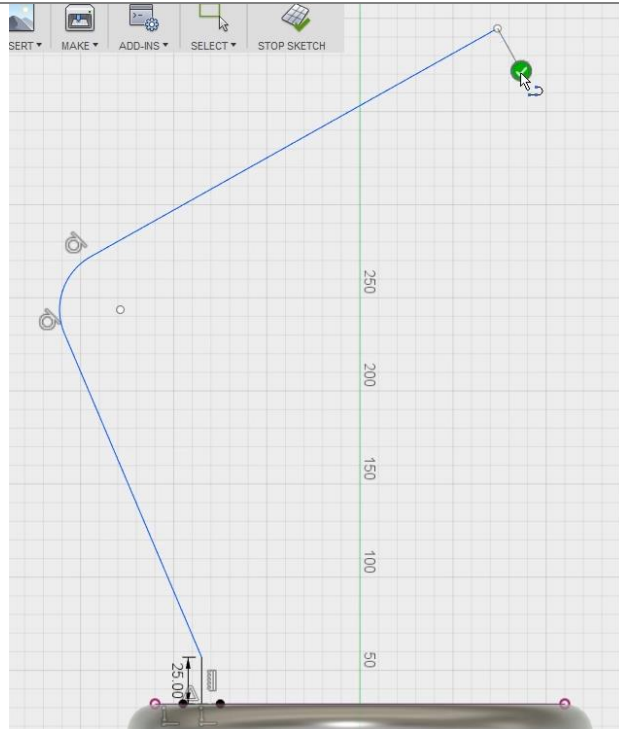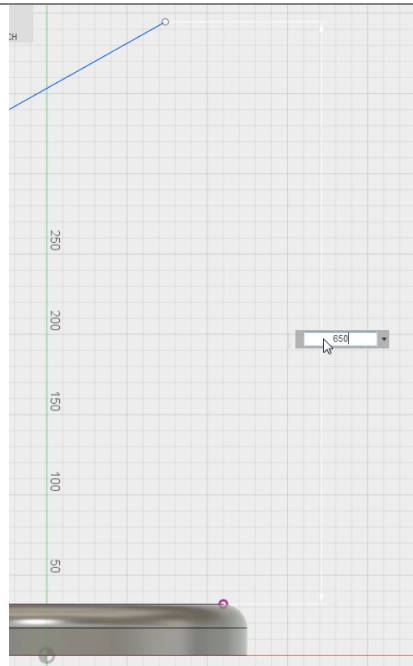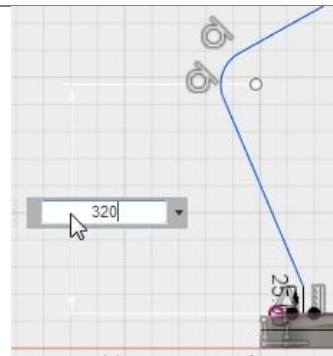|	
1. Carry on with the file from the previous example. Create a new sketch on the front plane. Select Sketch> Project/Include> Intersect and then choose the top face of the lamp stand. Click OK.	
2. Draw a line joining the two lines on either side of the hole. This allows you to have a midpoint hovering over the hole as evidenced by the triangle icon.	
3. Starting at the midpoint of the line you just drew, draw a 25mm vertical line. Then hit ENTER three times then ESC.	
4. Select the sketch line spanning the hole and click on Construction so that it will only be used for reference and not for geometry.	

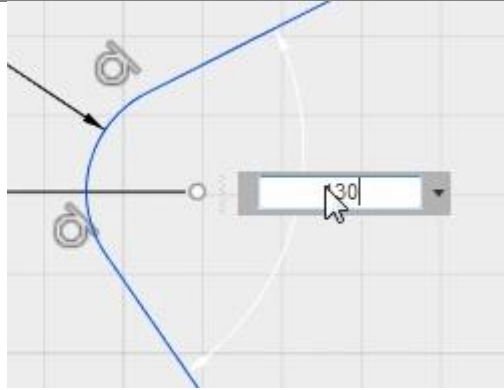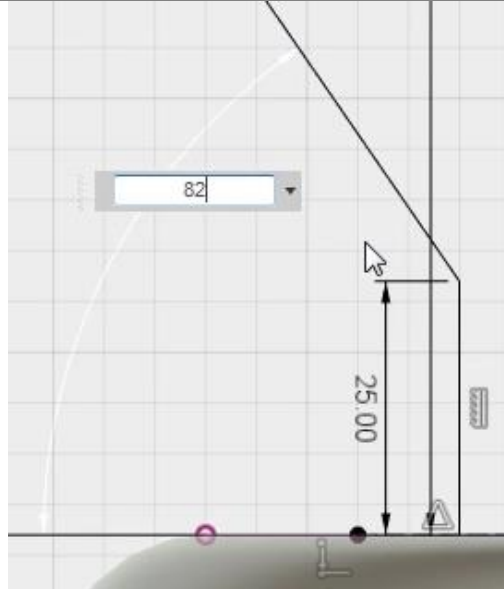|	
5.	Going up and to the left, draw a line from the top point of the vertical line. Go back to the end of the line and hold down the left mouse button which will start the Tangent Arc tool. Letting go of the left mouse button places the arc. Draw a straight line from the arc going up and to the right. Left click on the green check mark to end the line tool.	
6.	Place a dimension of 650mm from the end of the arm to the intersection geometry on top of the base.	
7.	Place a dimension of 70mm to the radius of the lamp arm's arc. Then place a dimension of 320mm from the center of the lamp arm's arc to the intersection geometry on top of the base.	

8. Click on the diagonal lines and add a dimension of 130 degrees.	
9. Add an 82 degree dimension between the lower arm and the top of the lamp base.	
10. Select Sketch> Fillet to add a 25mm radius fillet to the sharp transition on the lamp arm. You will get a notification alerting you that the 25mm dimesion for the lowest part of the arm now goes to the center of the arc. Press Stop Sketch. Save the file.	