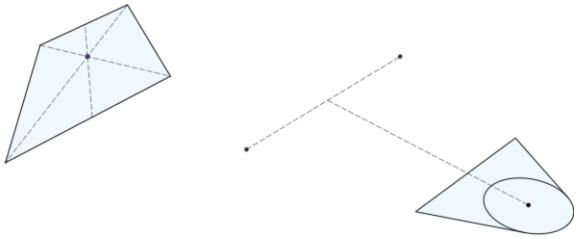
Lesson: Sketch Parameters

In this lesson, you'll create custom parameters to efficiently control sketch geometry.

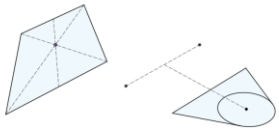


The completed exercise

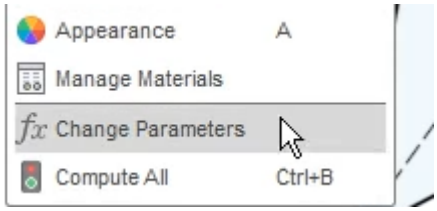
Learning Objectives

- Use sketch parameters.

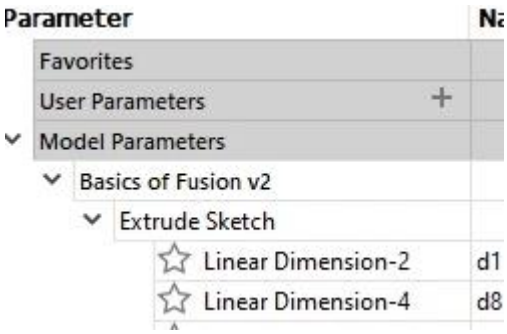
1. Continue with the *Basics of Fusion* file from the previous module.



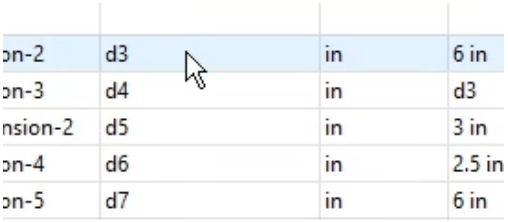
2. Using the Toolbar's Modify drop-down menu, click Modify> Change Parameters.



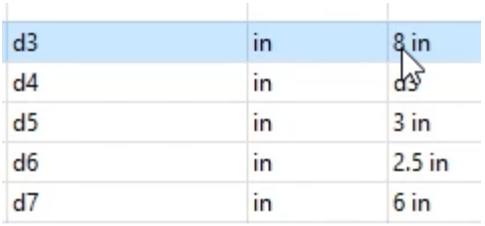
3. Inside the Parameters dialog, expand the information in the Model Parameters section. Notice that the dimensions for each sketch are listed.



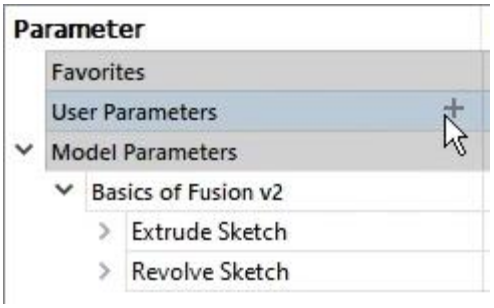
4. Notice that Linear Dimension-2 is displayed as 6 inches. Linear Dimension-3 is shown as d3 to indicate that it is linked to Linear Dimension-2's dimension.



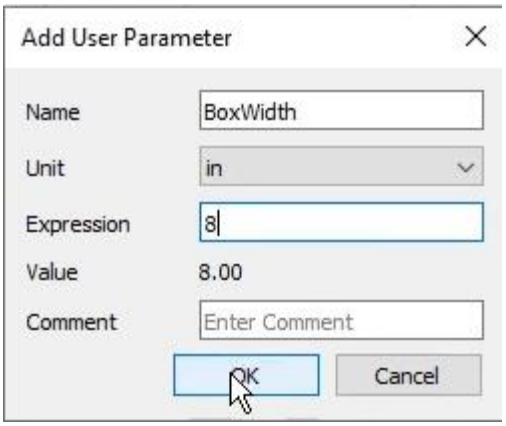
5. Click Linear Dimension-2's dimension in the Parameters dialog and update its value to **8**. Notice the geometry in the Canvas updates to reflect the new values.



6. Custom parameters can be created by clicking the plus icon next to User Parameters.

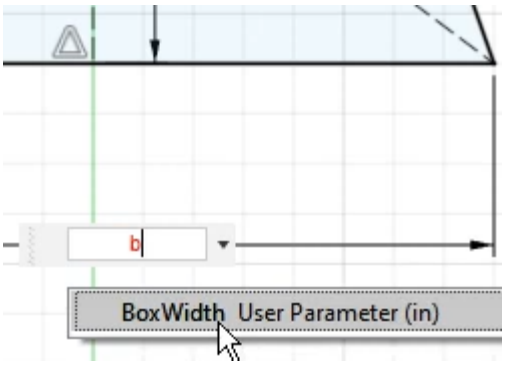


7. In the Add User Parameter dialog, name the new parameter **BoxWidth** without a space between the words. Note the available options inside the Unit menu but don't make any changes. Enter **8** into the Expression field, then click OK to create the custom parameter. Click OK in the Parameters dialog.

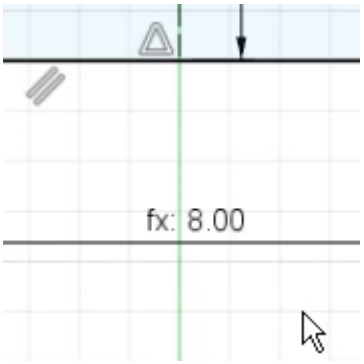


8. Edit the Extrude Sketch sketch. To do this, select it, right-click it, then choose the Edit Sketch option from the menu.

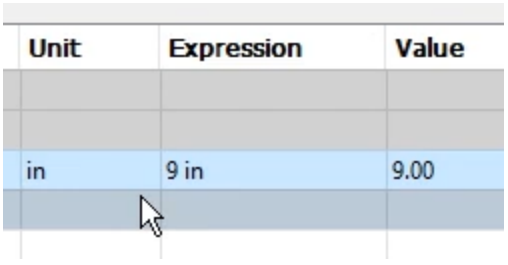
9. Double-click the geometry's bottom dimension to edit it. Begin typing **BoxWidth**, then auto populate the rest of the phrase by choosing the appropriate selection from the menu. Press Enter to update the dimension.



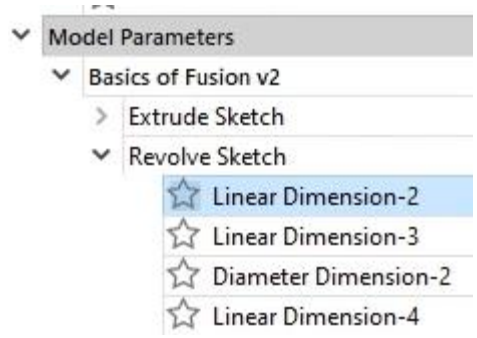
10. The dimension now has the fx prefix to indicate that it is parametrically driven. Finish the sketch by clicking sketch> Finish Sketch.



11. Click Modify> Change Parameters. Update the custom parameter's Expression value to **9** and notice that the geometry in the Canvas automatically updates.

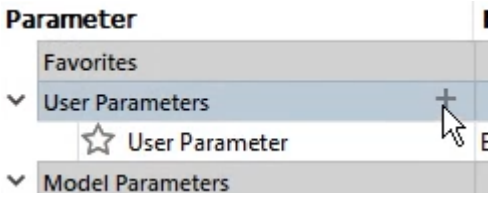


12. In the model parameters section, expand the Revolve Sketch drop-down. Select Linear Dimension-2.

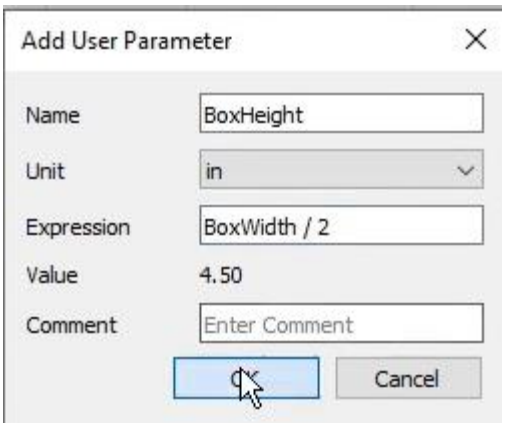


13. Update Linear Dimension-2's Expression value to **BoxWidth**. Even though the custom parameter was first used in a different sketch, it can also be used in this sketch.

14. A relationship can also be created between parameters. Create a new custom parameter by clicking the plus icon next to the User Parameters.



15. Name the new parameter **BoxHeight**, then enter the expression **BoxWidth / 2**. This parameter will calculate its value after dividing the BoxWidth parameter in half. Click OK to create the new custom parameter, then click OK in the Parameters dialog.



16. Select and right-click the Browser's Extrude Sketch. Choose the Edit Sketch option from the menu. Change the geometry's height value to **BoxHeight**. Click Finish Sketch. Parameters can be used in many different ways and is a powerful tool to efficiently create and update many dimensions. Save the file and continue to the next module.