**Improved Plot Builder in Maple 2022**

**Enhancements to the Plot Builder**

- The Plot Builder has been enhanced to:
  - Support building a graph or animation from multiple expressions
  - Automatically select an initial choice of plot type, thereby showing a plot immediately

- You can access the Plot Builder using the `PlotBuilder` command or via the Context Panel for an expression. See Using the Interactive Plot Builder.

**Multiple Expressions and Automatic Plot Choice**

- When the PlotBuilder is passed a list, set, or sequence containing multiple expressions, the context panel gets automatically populated with a thumbnail view. The common plot type for expressions in a single unknown is a 2-D curve, and for expressions in two unknowns it is a 3-D surface plot.

- The following example deals with three expressions in a single unknown, and the current view is of the central window and the context panel showing the thumbnail view.

- In this thumbnail view you can change the common plot type for all expressions using the menu. You can select any individual thumbnail plot to change its associated properties.
Animation

• If more than one independent variable is present then the plot can be produced as an animation. New in Maple 2022, you can build an animation from multiple expressions.

• In the following example containing two expressions in two unknowns the automatic choice is a 3-D plot of two surfaces. To make it an animation of curves in 2-D instead, select the **Animation** radio button in the Plot Builder panel. Now one of the independent names is taken as the animating parameter.

• The choice of which names are the independent variable(s) and which is the animating parameter can be changed using the combo-box menu for each variable or the animating parameter.
The image below shows in the Plot Buider panel the controls for one of the individual curves. A single preview frame is shown in the main window. After all additional plotting options have been chosen, click the **Build Animation** button, which constructs the full animation and displays it in the main window.
Now you can use the animation toolbar to play the animation.

\[ \frac{x}{2} + 10 \cdot t, (-x + t)^2 \]