

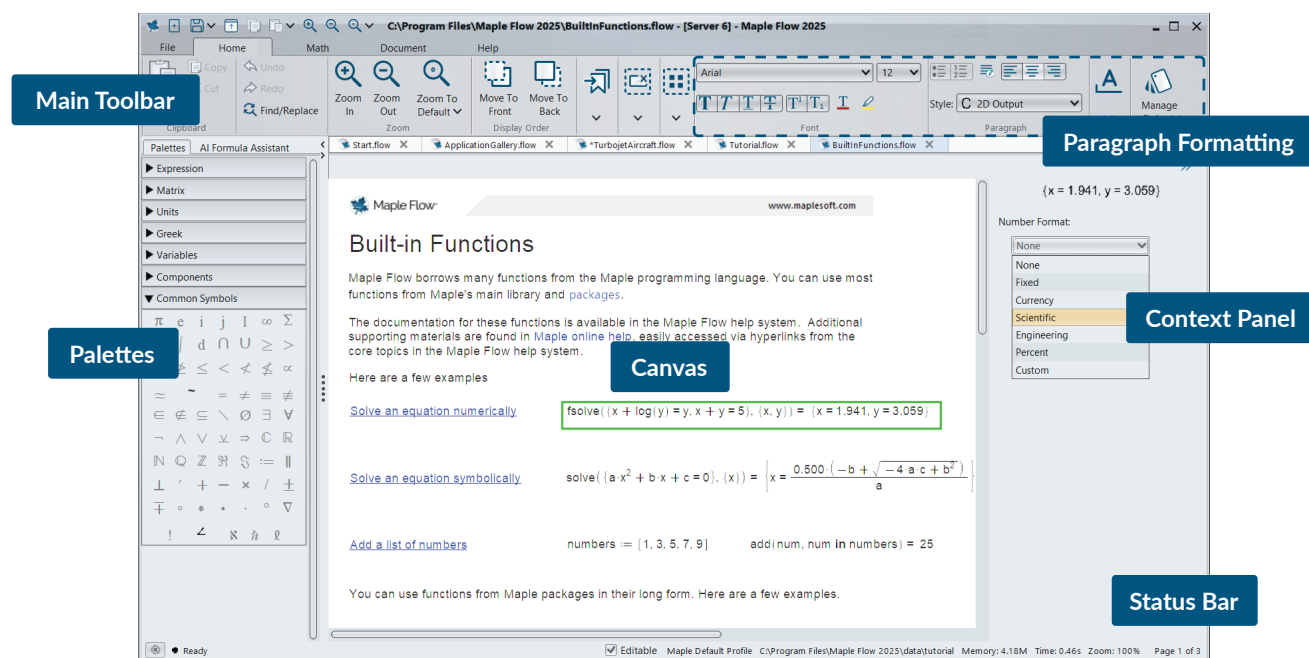
Getting Started with Maple Flow



If you're a new user

- Explore the in-product Application Gallery for examples across many disciplines using *Help > Application Gallery* or visit maplesoft.com/applications/flow for more.
- Follow the in-product tutorials using *Help > Tutorial*
- Reach out with your questions to the Support Contacts below – we're here to help!

Exploring the Interface



WORKING WITH A NEW CANVAS


Define a parameter	$x := 1$ (x colon equals 1)
Command completion	Type first few characters of command or variable, then Ctrl+Space e.g. Thermo Ctrl+Space
Insert a units placeholder	Ctrl+Shift+U or Units palette
Convert the units of a result	<ul style="list-style-type: none">• Click inside the result unit and edit $2 \text{ ft} + 2 \text{ in} = 0.660 \text{ m}$• or click the result and use the Context Panel
Move a container with the keyboard	<ul style="list-style-type: none">• Move the grid cursor into a container, then Ctrl+arrow keys• Make sure the math container is not surrounded by a border, then click-drag container into position

Equality between two sides of an equation	Press Ctrl+=
Delete a container	Move the grid cursor onto a container, then Ctrl+Del
Current value of variables	Variables palette


DOCUMENTATION

Write text	Click in a blank part of the canvas, then press Space and start typing
Format Text	Click in text and use the Context Bar and Text Styles
Insert a section	<i>Document > Insert: Section</i>
Export a PDF	<i>File > Export as PDF</i>
Command completion	Ctrl+Space
Viewing the extents of a printed page	<i>Document > View: Print Extents</i>
Background color of math container	Right click on container and click <i>Background color</i>
Greek Letters	<ul style="list-style-type: none"> • Greek palette • Roman transliteration followed by Command Completion e.g alpha Ctrl+Space or Delta Ctrl+Space
Page Break	<ul style="list-style-type: none"> • <i>Document > Insert: Page Break</i> • or Ctrl+Enter

EVALUATION

Evaluate math and display results	Press = anywhere in math
Prevent floating point approximation	Click inside the math container, then click <i>Symbolic</i> in the Context Bar or Alt+S . You may need to make several preceding math containers symbolic as well
Disable/enable automatic evaluation of worksheet	
Disable evaluation for individual math	Right click on math and select <i>Disable Evaluation</i>

BASIC MATH

Solve equations numerically	fsolve ({equations} , {initial values}) e.g. fsolve ({x+y=1,x^2+y=1},{x=1,y=1})
Solve equation symbolically	solve ({equations} , {unknowns}) e.g. solve ({x+y=1,x^2+y=1},{x,y})
Piecewise expressions	<ul style="list-style-type: none"> • Expressions palette >  • piecewise followed by command completion to typeset • piecewise(x>1,1,x≤ 1,0)
Booleans	<ul style="list-style-type: none"> • <=, >=, <, > (<= and >= typeset to ≤ and ≥) • and/or (followed by command completion to typeset to ∧/∨)
Create a simple plot	plot(sin(x),x=0..10) <i>See Help > Tutorials > Plotting in-product for more</i>
Substitute numerical values into an expression	eval (x+y , [x=1,y=2])

MATRICES AND VECTORS

Create a Matrix or Vector	<ul style="list-style-type: none"> Matrix palette <code>Matrix([[1,2,3],[3,4,5]])</code> <code>Vector([3,4,5])</code> or <code>Vector([3,4,5], orientation =row)</code>
Index into a matrix, vector, list or expression sequence	Square brackets e.g. <code>L[index]</code> or <code>M[rowIndex, columnIndex]</code>
Adding all the values in Vector or Matrix	<code>add(M[i],i=1..N)</code>
Number of rows and columns in a Vector or Matrix	<code>upperbound(M)</code>
Extract rows or columns from a Matrix	<code>M[..,columnIndex]</code> or <code>M[rowIndex, ..]</code>
Matrix Math	Inverse: M^{-1} Multiplication: <code>M.M</code> (i.e. <code>M</code> period <code>M</code>) Transpose: $M^{\%T}$

Further Resources

The Maple Flow Help system allows you to browse and search for help on specific topics as you add mathematics, data analysis and add plots and graphics – select **Help > Maple Flow Help**

Maple Flow User Guide

https://www.maplesoft.com/documentation_center/

Maple Flow Training Resources

<https://www.maplesoft.com/support/training/>

MaplePrimes (Maplesoft User Community Forum)

<https://www.mapleprimes.com/>

Maplesoft Product Information

<https://www.maplesoft.com/products/>

Support

Our Online Support webpage shows various ways to connect with Maplesoft for questions and help.
<https://www.maplesoft.com/support/>

You can also email:

Sales and Licensing Support: custservice@maplesoft.com

Technical Support: support@maplesoft.com