

# MathTools V3

New features at a Glance

V3.0-034

2017-11-08

## Compatibility with the InDesign Product Family

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MathTools V3 is available from <https://movemen.com/downloads> for

InDesign / InCopy / InDesign Server CC 2014.1 – CC 2018

InDesign / InCopy / InDesign Server CS6

MathTools V3 was developed on CC 2017 and 2018 and ported back to earlier versions. Some features may not be available or work differently with earlier versions.

## Licensing

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MathTools requires a license that can be purchased online:

<http://shop.movemen.com/MathTools>

MathTools V3 works with a valid, not expired, annual license, purchased and issued after Nov 1<sup>st</sup>, 2016.

## Compatibility with MathTools V2

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Changes and new features for MathTools V3 were limited to not break backward compatibility regarding Math Styles and related expressions.

Beware, this does not mean that a round-trip through V2 is entirely lossless. MathZones created in V3 and round-tripped through V2 may render differently, depending on which new features are used. That's exactly what would happen if a CC 2018 IDML document is round-tripped through an older version of InDesign.

**Do not round-trip a V3 document through V2, unless it is required and there's a good reason for it.**

### V2 ⇨ V3:

- V3 is a superset of V2
- New features were added
- Select features were improved
- Math Styles have not changed
- Working on a V2 document is OK

### V3 ⇨ V2:

- V2 will silently drop any new V3 settings during save
- Because Math Styles did not change, rendition of expressions do not change
- Working on a V3 document is OK, but V3 related settings will be dropped

# Important Notice — MathTools READER

movemen offers a *free* MathTools READER.

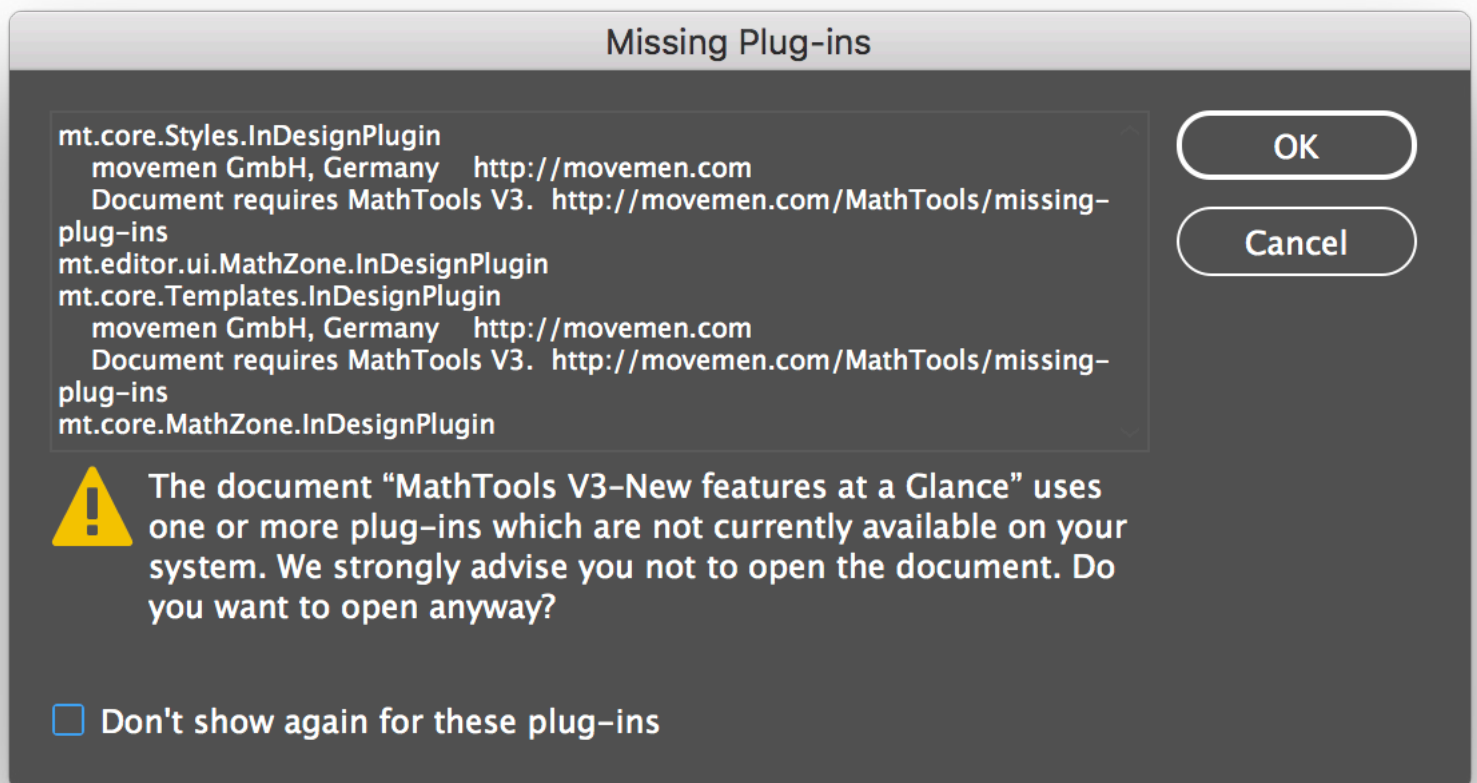
Please refer to <https://movemen.com/reader> for further details.

It is important to always use the latest READER version available.  
V3 READER can deal gracefully with V2 documents,  
but not vice-versa!

MathTools saves data like Math Styles and MathZones into InDesign documents.

By design, InDesign therefore requires MathTools to be available and to take care about its own data. That's what the Missing Plug-ins Alert is all about.

Ignoring this warning results in **irreparable damage** of MathZones and **loss of all Math Styles** in that document.



Now, since MathTools V3 is released, be sure to replace all READER installations by latest READER.

# Menu Overview

- Diacritics (above, wide)
- Diacritics (above), Primes
- Diacritics (bottom, wide)
- Diacritics (bottom)
- Fractions, Roots, Scripts, Brackets
- Horizontal Brackets
- Integrals
- Labeled Arrows
- Labeled Harpoon Arrows
- Matrices
- Sums, Products, ...
- Alphanumeric Symbols (Math. Variants)
- Arrow Symbols
- Double-Struck Symbols
- Fraktur Symbols
- General Symbols
- Greek Symbols
- Greek Symbols (Math. Variants)
- Mathematical Operators
- Monospace Symbols
- Sans-Serif Symbols
- Script Symbols
- Remove and Re-Load Toolboxes

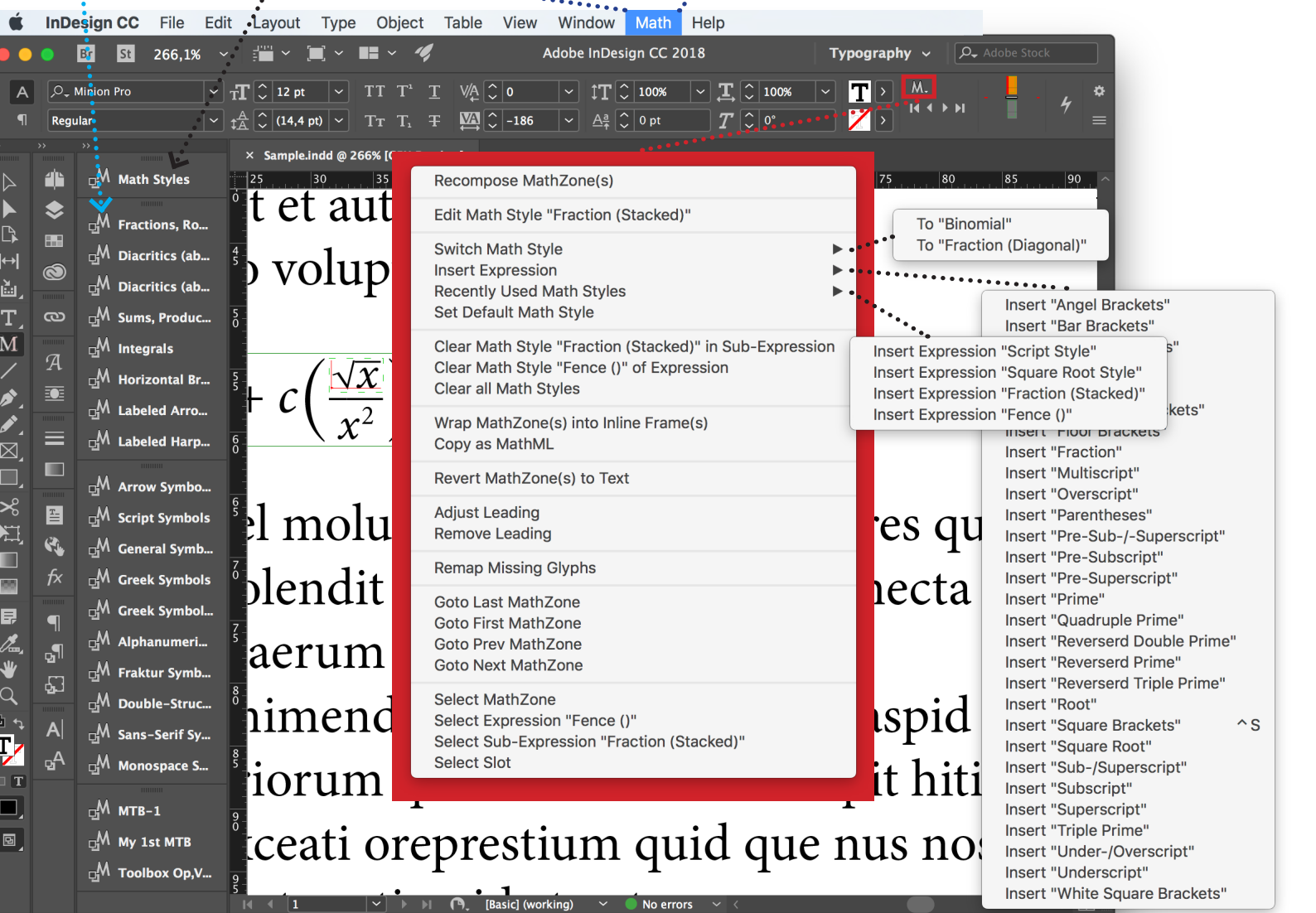
- Enable Math for Current Document ^ E
- Recompose MathZone(s)
- Math Style Find/Change...
- Math Zone
- Math Style
- Place Word docx and Import Equations
- Toolboxes
- MTB-1
- My 1st MTB
- Toolbox Op,Var,...
- Add Custom Toolbox...
- Math Styles
- Support
- Licensing
- 3.0.0\_034
- movemen - iMac5K
- Subscription ends in 84 days

- Create from Inlined Equation Image(s)
- Create from Inlined Text-encoded Equation(s)
- Adjust Leading
- Remove Leading
- Convert Leading Into Text Leading
- Turn ON: Auto-Adjust Leading
- Show Frame Edges
- Show MathZone Selection in Preview Mode
- Turn ON: recompose after p/c style change
- Remap Missing Glyphs
- Wrap MathZone(s) into Inline Frame(s)
- Unwrap MathZone Inline Frame(s)

- Convert V1 Math Styles
- Restore Math Style Keyboard Shortcuts
- Clear Math Style Keyboard Shortcuts

- Cleanup Document
- By Name
- By Mappingtable
- Simplify nested vector expression
- Export V1 Math Style Names
- Export V2 Math Style Names
- Export all Math Style Names

- Create license report
- Verify MathTools license
- Deactivate MathTools license



# Major Changes and Improvements

## Expression Type versus Math Style

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In previous versions of MathTools, the way to enter a math expression is by Math Style. That's still possible and has been improved by introducing keyboard shortcuts for Math Styles. But it requires that the Math Style exists *prior* entering the expression. This style-centric approach does not fit well into authoring workflows.

MathTools V3 provides tools to create expressions by their type, like  $\sqrt[n]{\square}$ ,  $(\square)$ ,  $[\square]$ ,  $\tilde{\square}$ ,  $\sum_{\square}$ ,  $\oint^{\square}$  or  $\int_{\square}^{\square}$ , using Math Toolbox, context menus or keyboard shortcuts. Math Styles are created as needed in the background and can be fine-tuned or replaced later-on.

## Conversion from MathML and MathType

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The quality of the MathType expression conversion has been improved significantly by relying entirely on the new expression types. This applies to MathML import as well.

## MathML export: map font style to mathvariant

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On MathML export, MathTools needs to map the applied font style to a mathvariant (normal, italic, bold, bold-italic). InDesign offers a way to request that information, which works well in general, but fails to be reliable at times. If it fails, the wrong mathvariant is applied and the MathML expression will not render correctly. MathTools V3 therefore introduces a new configuration file to associate font style name patterns to its related mathvariant (I=italic, BI=bold-italic, B=bold, R=regular).

The default configuration file `mt.FontStyleNameMap.mtcfg` covers all font style name patterns we were able to identify over time. That configuration file should be considered read-only.

For style names not covered yet, a custom configuration file `mt.FontStyleNameMap_CUSTOM.mtcfg` next to the base configuration file is required, to specify the new mapping pairs like

mathvariant-code `[TAB]` font style name.

For example:

I	<code>[TAB]</code>	My fancy italic font style
R	<code>[TAB]</code>	normalo font style

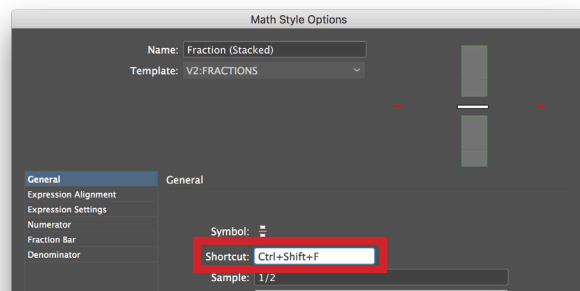
Please share custom configurations with [movemen](mailto:movemen), so we can improve the default setup for future releases.

# Major New Features

## Keyboard shortcuts for Math Styles

Assign a keyboard shortcut for a Math Style directly in the Math Style Options Dialog. This works much like assigning keyboard shortcuts for character styles. Caveat: InDesign doesn't allow to assign those keys used for InDesign styles.

Keyboard shortcuts for Math Styles are saved with the style and available as soon as the document becomes the active document.



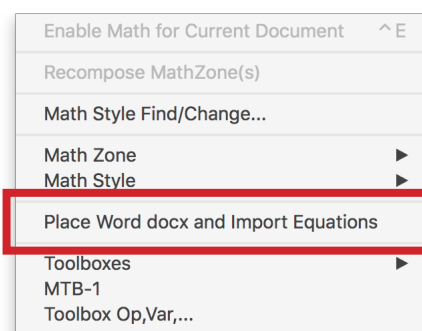
## Importing Word equations created with MS Equation Builder



InDesign's native Word document (docx) import function silently strips off Microsoft Word Equation Builder equations.

MathTools V3 provides Place Word docx and Import Equations in the Math menu to work around this issue and import the equations as MathZones. Other content is handled by InDesign's native Word document import.

MS Equation Builder equations are imported as MathML, based on transformations (Office MathML → MathML) provided by Word. These transformations are performed in the background during the import.



This new functionality also eliminates limitations regarding the import of embedded MathType equations, like Word docs created with Word:mac.

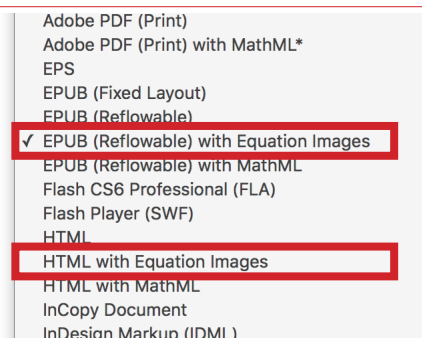
## Export EPUB/HTML with Equations Images

MathTools extends InDesign's EPUB (Reflowable) and HTML exports to include MathTools equations as images. It takes care about the baseline alignment of the inline image and proper scaling.

Equation images are needed for EPUBs for the Kindle platform, for example.

MathML is provided in the HTML Alt Tag, to allow post-processing with accessibility tools.

Important note: previewing the export result is not supported for those equation-aware export formats. Because, the file exported by InDesign needs some post-processing to handle equations. Post-processing fails, if the file is opened by another application. Therefore, MathTools temporarily unchecks the related preview settings before presenting the Export Options dialog.



## Export EPUB/HTML with Equations as MathML: no Extension needed anymore

While exporting EPUB/HTML with MathML was available in V2 already, it required an external app to finalize the export.

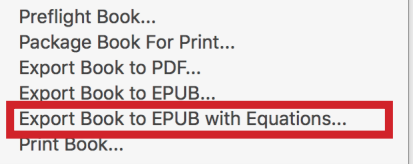
In V3, the entire export support is reimplemented to significantly improve performance for long documents (and documents with more than 1000 MathZones) and to integrate post-export operations into MathTools.

## Export Book to EPUB/HTML with MathML or Equations Images

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InDesign's book feature combines documents into a single publication. Some documents may contain MathZones which should be exported properly as MathML or Equation Images.

Export Book to EPUB with Equations from the book's fly-out menu takes care about MathZones and delegates to InDesign's native export.



Preflight Book...  
Package Book For Print...  
Export Book to PDF...  
Export Book to EPUB...  
**Export Book to EPUB with Equations...**  
Print Book...

### Known caveat

If a book document (with MathZones) would open as a Copy, because, for instance, it requires a conversion, MathZones will not be handled for that document at all.

### Workarounds

- Package the document and use the packaged INDD, or,
- Open and save each document and finally the book to fix the conversion issues

## MathZone Inline Frames

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Added in V2, this functionality received a major overhaul and new features in MathTools V3.

### Preserving paragraph style

When wrapping a MathZone into a inline text frame, MathTools preserves the styling context of the MathZone. But, one there's one relevant change: the MathZone now sits at the very beginning of the paragraph. This may trigger all kinds of special paragraph style features that are most likely not applicable to MathZones in an in-lined text frame, like Paragraph Rules, Nested Styles, Indents and Spacing, Bullets and Numbering.

To avoid this behaviour, a copy of the applied paragraph style is created and selected style settings are reverted to their defaults. The copy is created in Style Group “~~~~~(MathTools)” with prefix `_tmp_` added to the original style name.

If the MathZone is unwrapped, the original paragraph style is restored.

### MathZone spreading multiple paragraph lines

MathTools builds a chain of individual MathZone Inline Frames, one per text line.

For this to work properly, it is necessary that the MathZone can be split at the line wraps.

Caveat: MathZone is split per MathZone Inline Frame in the chain. Unwrapping the MathZone Inline Frame chain results in a single MathZone, though.

### MathZone spreading multiple paragraphs

In this case, a single MathZone Inline Frame is created to cover the entire MathZone.

Caveat: MathTools does not automatically create a chain of MathZone Inline Frames if a multi-paragraph MathZone breaks to another column.

## InCopy – working with ICML files

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MathTools depends on a number of settings that are in place once a document is Math Enabled. This works well with a full featured IDML file, as it represents an InDesign document.

But for stories (ICML) or snippets (IDMS), only data refer to directly or indirectly is kept. Like a character style refers to a swatch and therefore that swatch is added to ICML, if the character style is added.

InCopy can be used to work on ICML files directly in standalone mode. Internally, InCopy creates a temporary document with the ICML file placed into it. As the ICML file does not cover all settings of an InDesign docu-

ment, several MathTools related settings are not available in the temporary document in InCopy. MathTools V3 now automatically detects and fixes incomplete initialization of documents. This improves stability as well as functionality of MathTools in InCopy. There are other use cases related to editorial workflows that benefit from these improvements as well.

## MathZone Leading

InDesign does not provide an option to automatically adjust text line leading to prevent characters of adjacent lines from crashing into each other. Instead, all kinds of manual adjustments are required to deal with these issues, as equations typically do not fit well in a baseline grid.

MathZone Leading offers a solution to deal with the majority of these issues.

### Use Case: Body text with inline equations

With standard leading applied, characters of a MathZone may be crashing into adjacent text lines, as shown in the sample. After applying MathZone Leading to the affected text line, InDesign renders the paragraph with proper leading. Note: in most cases, MathZone Leading affects the line following the MathZone as well!

*standard leading*

Res etur arcia verissunto mos et archili gendel est,  
velloribus am  $\frac{2x+\frac{3}{xc}}{\frac{b}{xc}-b}$  veliquiae la con rem con num-  
que venduciendit  $\frac{x}{j}$  quat et ut oditio corrumet

*MathZone Leading*

Res etur arcia verissunto mos et archili gendel est,  
velloribus am  $\frac{2x+\frac{3}{xc}}{\frac{b}{xc}-b}$  veliquiae la con rem con num-  
que venduciendit  $\frac{x}{j}$  quat et ut oditio corrumet

This works exactly the same way if the MathZone is in the first line of the following paragraph, or the last line of the preceding paragraph.

### Use Case: Display equations

Display equations are paragraphs. The preceding use case applies likewise.

### Use Case: Table cells with equations in first or last line:

For now, a cell's First Baseline option is set to adjust its First Baseline Offset. To fix the last line in a cell, its Bottom Inset is set accordingly. Body text in a cell is adjusted like other body text.

bus am $\frac{2x+\frac{3}{xc}}{\frac{b}{xc}-b}$ veliquiae la con rem con numque venduciendit $\frac{x}{j}$ quat	

bus am $\frac{2x+\frac{3}{xc}}{\frac{b}{xc}-b}$ veliquiae la con rem con numque venduciendit $\frac{x}{j}$ quat	

### Use Case: Span and Split Columns

Both are supported even in complex combinations

Res etur arcia verissunto mos et archili gendel est,  
velloribus am  $\frac{2x+\frac{3}{xc}}{\frac{b}{xc}-b}$  veli- que venduciendit quat et  
quiae la con rem conum- ut oditio  $\frac{3}{j}$  corrumet  
Res etur arcia verissunto mos et archili gendel est,

Res etur arcia verissunto mos et archili gendel est,  
velloribus am  $\frac{2x+\frac{3}{xc}}{\frac{b}{xc}-b}$  veli- que venduciendit quat et  
quiae la con rem conum- ut oditio  $\frac{3}{j}$  corrumet  
Res etur arcia verissunto mos et archili gend

However, due to the complexity of text composition with split and span columns, adjusting the leading in one



paragraph likely affects column breaks and, in turn, might require another round in the fix-the-leading game. Sometimes, fine tuning leading manually is the better alternative for complex split/span columns layouts. But it's worth giving MathZone Leading a try as a first step.

### Use Case: Adjust MathZone Leading after a text reflow

Starting point are two MathZones in the 2nd text line, both affecting the leading of the 2nd and 3rd text line.

*standard leading*

Res etur arcia verissunto mos et archili gendel est,  
velloribus am  $\frac{2x+\frac{3}{xc}}{\frac{b}{xc}-b}$  veliquiae la con rem con  $\frac{3j}{xc}$   
numque venduciendit quat et ut oditio corrumet

*MathZone Leading*

Res etur arcia verissunto mos et archili gendel est,  
velloribus am  $\frac{2x+\frac{3}{xc}}{\frac{b}{xc}-b}$  veliquiae la con rem con  $\frac{3j}{xc}$   
numque venduciendit quat et ut oditio corrumet

After entering 'ADDED' into the first line of the paragraph, text reflows and text lines are rebuilt. Second MathZone moved on to 3rd line and now affects the leading of 3rd and 4th line. The 3rd text line is now affected by both, the descenders of the 2nd line and the ascenders of the 3rd line. The MathZone Leading needs to be adjusted for 2nd, 3rd and 4th (due to descenders of 3rd) line to match the rebuilt text lines.

**ADDED** Res etur arcia verissunto mos et archi-  
li gendel est, velloribus am  $\frac{2x+\frac{3}{xc}}{\frac{b}{xc}-b}$  veliquiae la con  
rem con  $\frac{3j}{xc}$  numque venduciendit quat et ut oditio  
corrumet

**ADDED** Res etur arcia verissunto mos et archi-  
li gendel est, velloribus am  $\frac{2x+\frac{3}{xc}}{\frac{b}{xc}-b}$  veliquiae la con  
rem con  $\frac{3j}{xc}$  numque venduciendit quat et ut oditio  
corrumet

### Not yet supported Use Case: Equation in first line of a text frame column

While there's a working solution to adjust the first baseline offset in text frames available, which also works well for table cells, it requires a break with V2 backward compatibility. Therefore, this feature is postponed to next major MathTools release.

### Not yet supported Use Case: Equation in last line of a text frame column

There's no solution available in V3. There's a candidate implementation for V4.

### Not yet supported Use Case: Equation in text line preceding a table

If a MathZone with a significant descender precedes a table, MathZone Leading fails to apply the needed leading to text line with the table. This won't even work with manually applying leading to a table.

### Working with MathZone Leading

Actions to adjust and remove MathZone Leading are available and should have a keyboard shortcut assigned. Though, both are available through the MathZone context menus as well.

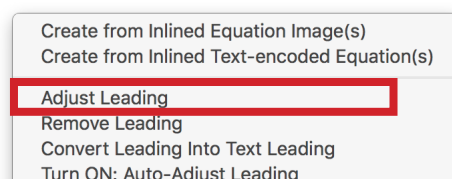
These commands work on the current selection and support text or cell ranges, text frames, and the entire document.

For raw content that was just imported, adjusting MathZone Leading on the entire content before applying other adjustments, can be a good idea. Otherwise, the MathZone Leading should be adjusted as needed for text ranges.

Adjust Leading for all MathZones in the active selection

Remove Leading clears the MathZone Leading.

Convert Leading Into Text Leading turns MathZone Leading into In-Design's style overrides, without removing MathZone Leading (the bigger leading value wins)

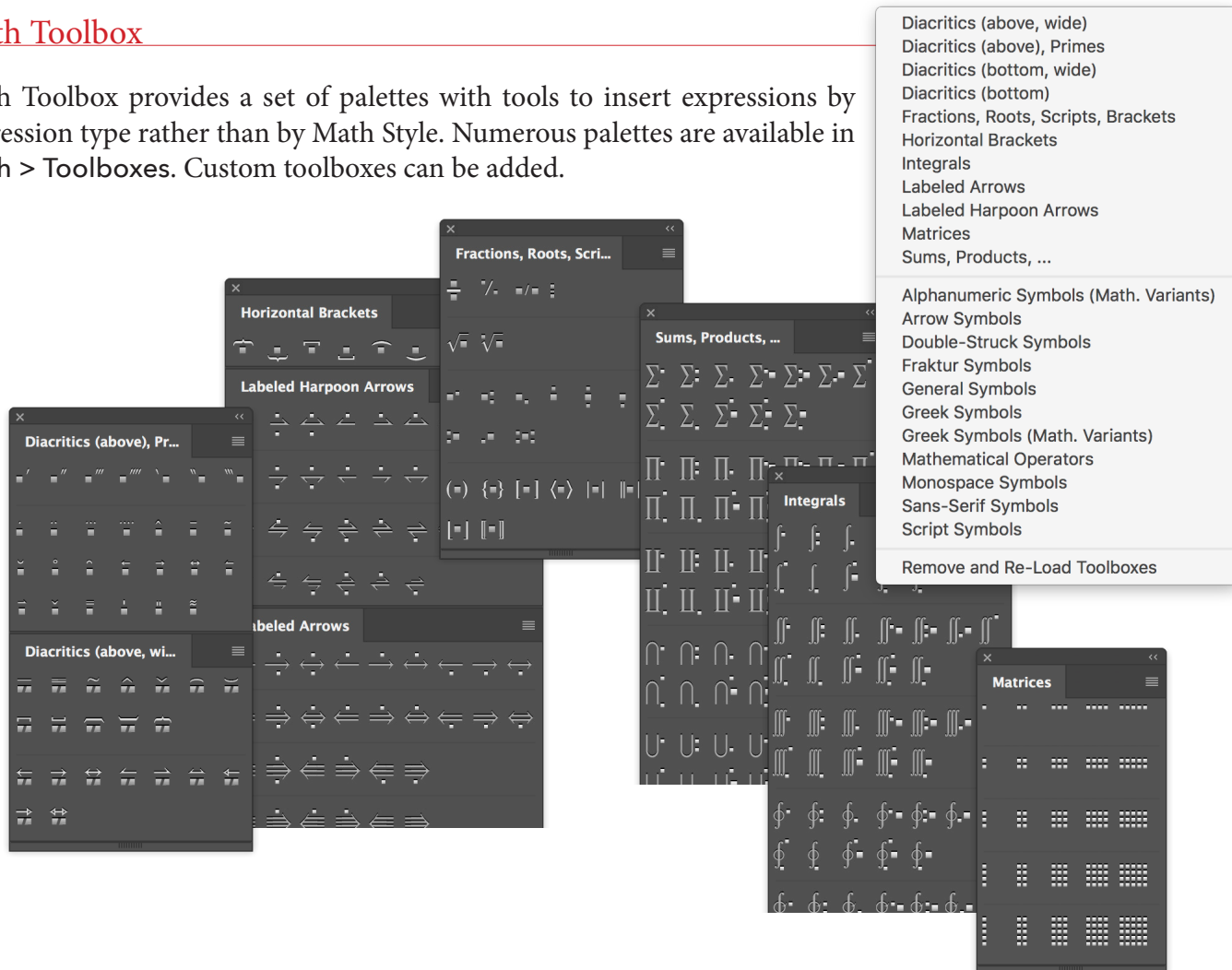


Turn ON(OFF): Auto-Adjust Leading controls whether or not MathZone Leading shall be adjusted for the current paragraph after entering or deleting characters. This is not limited to modifying MathZones, but any

changes to a part of the paragraph. However, the scope of operation is limited to a single paragraph, for now. It's worthwhile to have this option turned on while working on equations and turn it off thereafter.

## Math Toolbox

Math Toolbox provides a set of palettes with tools to insert expressions by expression type rather than by Math Style. Numerous palettes are available in **Math > Toolboxes**. Custom toolboxes can be added.



Math Toolboxes are dockable palettes. In InCopy they dock to the control bar, too.



To insert an expression from a tool palette, position the text caret in the story and click the tool. A placeholder expression is inserted into the story and the first placeholder is selected. Continue typing or use a tool to replace the placeholder by a sub-expression, and so on.

So far, Math Styles were not mentioned in these steps. In fact, Math Toolbox deals with Math Styles in the background, based on the expression type associated with the tool. If a matching Math Style is missing Math Toolbox creates one on the fly. If there's no unique match for the tool, the default Math Style for that expression type is chosen. You can always switch Math Styles after the fact using context menus.

### Default Math Style for a tool

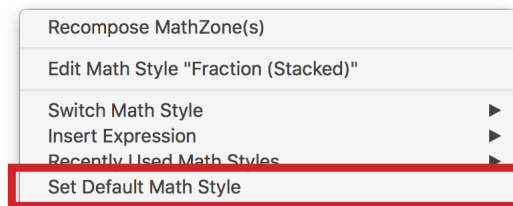
Previous versions of MathTools used to provide a Wizard Mode, which allowed to quickly insert simple expressions, like fractions or roots with a predefined Math Style applied. While this Wizard Mode is currently not available, the combination of keyboard shortcuts, context menus and Default Math Styles offers an even more

flexible experience.

A Default Math Style may be selected per expression tool (which relates to an expression type), if multiple Math Styles exists for the expression type.

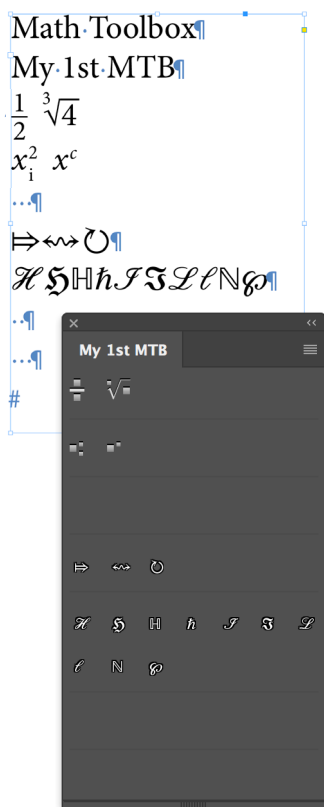
To select the *active* Math Style as Default, use **Set Default Math Style** from the MathZone context menu.

Another way to select the Default is to choose between a tool's variants using its context menu and Shift-Click the desired one; see the variants tool-tips to obtain the Math Style names. To dismiss the variants dialog, press ESC. Once, a Default Math Style for an expression type is selected, it is used whenever an expression of that type is inserted by tool, context menu or keyboard shortcut.



## Custom Math Toolbox

To create a custom toolbox, create a new text frame, add Math Toolbox as 1<sup>st</sup> paragraph and the desired name to identify the toolbox in the Math menu as 2<sup>nd</sup> paragraph (note, use alphanumeric characters and spaces for the toolbox name).



Add a 3<sup>rd</sup> paragraph and insert placeholder expressions of the tools to add. E.g., a fraction, a square root, a superscript, a Ring-Integral with upper limits and main arg, etc. Just insert them one after the other, or even nested. Note: the Math Style is ignored, only the type of the expressions is taken into account. *(In the sample Math Toolbox story, placeholders in expressions were replaced for illustration purposes only!)*

You can group those tools by placing them in separate paragraphs. You can create empty groups by inserting paragraphs with at least 2 spaces. To add a symbol, insert the symbol with a character style applied (style overrides will be ignored), if necessary.

Once expression types and symbols are added, use **Math > Add Custom Toolbox** to create the toolbox palette.

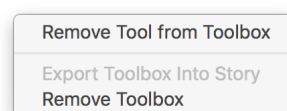
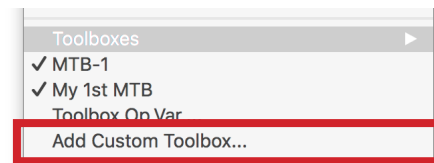
Use **Cmd+Drag** to rearrange single tools in a custom toolbox. **Shift-Click** selects tools and allows to remove them (fly-out > **Remove Tool from Toolbox**). To add (copy) tools from another toolbox to a custom toolbox, use **Cmd+Drag** drag.

To remove an entire toolbox, open its fly-out menu keeping the **Option** modifier key pressed and perform **Remove Toolbox**. Those Toolbox related actions can't be undone, that's why removing a panel requires pressing the **Option** modifier key.

To duplicate and modify a toolbox, create a new text frame and use **Export Toolbox into Story**. Change the name, remove/add tools or symbols or empty tool groups and add it as custom toolbox.

If the menu entries for Math Toolboxes disappear entirely, or the palettes seem incomplete, try **Math > Toolboxes > Remove and Re-Load Toolboxes** to restore them from their configuration. (Those Math Toolboxes are not wired into MathTools, but built entirely from a configuration.) Custom Toolboxes are maintained in a configuration file in the preferences folder next to InDesign Defaults (or InCopy Defaults).

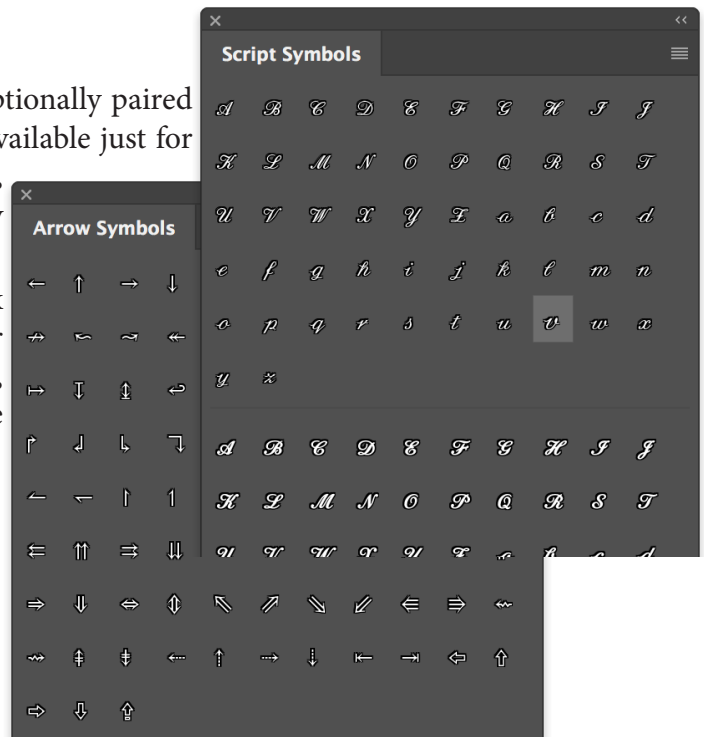
Math Toolbox palettes integrate with InDesigns Palette Workspace feature (**Window > Workspace**).



## Symbol Toolboxes

Symbol tools represents single Unicode characters optionally paired with a character style. These Symbol Toolboxes are available just for evaluation purposes. It works fine, though. As a caveat, the palettes might not render those symbols correctly due to font limitations or code mismatches.

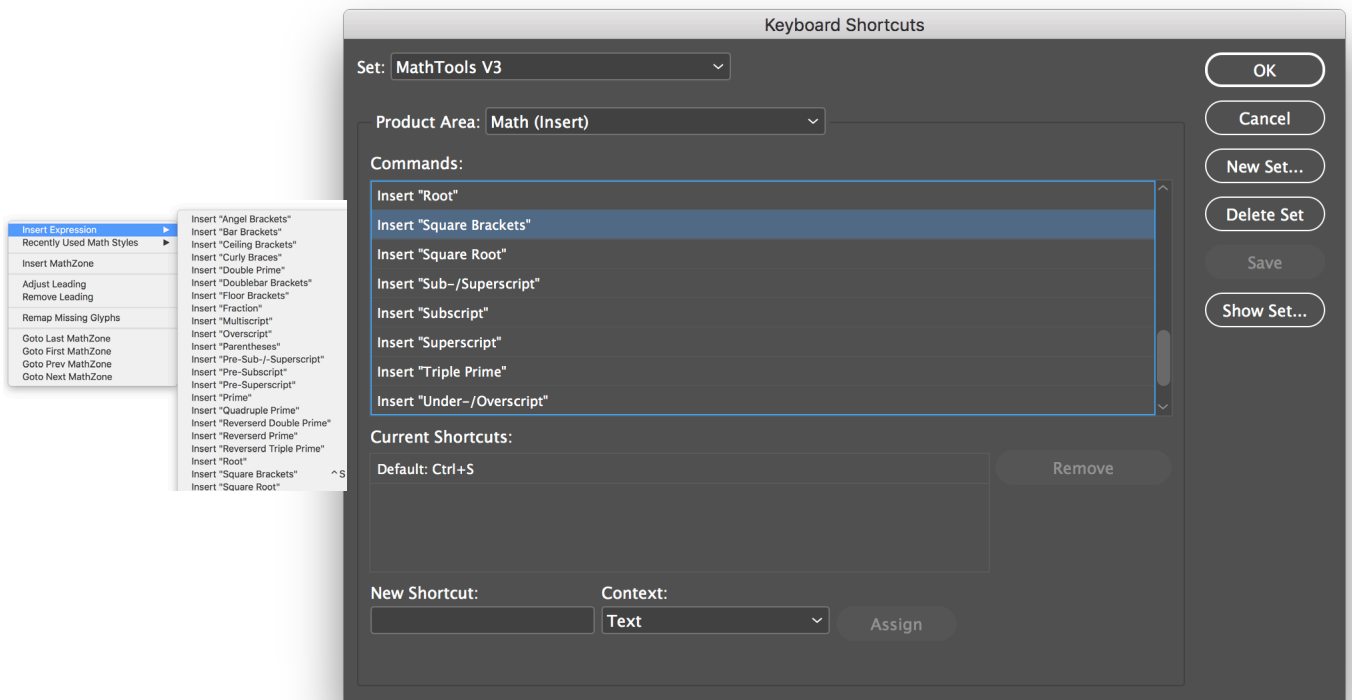
The benefit of using Symbol tools is that Math Toolbox takes care about the paired character style. I.e., after inserting the symbol with the character style applied, the next character typed will receive the character style before the symbol, not the one applied to the symbol.



## Keyboard Shortcuts for expression tools

Math Toolbox dynamically adds support for keyboard shortcuts to insert expression related to tools to the Keyboard Shortcut Product Area Math (Insert). Those actions are available also through the MathZone context menus. Finally, a keyboard shortcut can be assigned to popup menu this context menu as well.

Note, this list of actions for tools is yet to complete



## Converting MathTools V1 expressions

MathTools V2 introduced a new generation of Math Styles which were not backward compatible to V1. MathTools V3 continues to use these V2 Math Styles unchanged to provide backward compatibility.

MathTools V3 provides no support to render expressions created with V1 anymore. While the V1 mode that was made available in V2 is not removed entirely yet, modifying V1 expressions in V3 may result in rendering issues, at best. Moreover, there's no effort to make V1 expressions compatible with MathZone aware export options, including MathML export, provided by MathTools V3.

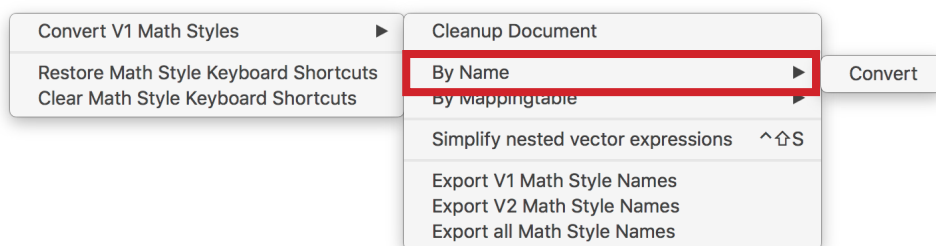
Finally, V1 expressions must be converted into V3 expressions.

Two conversion options are made available: The first option is a straight-forward approach that should work well for most V1 expressions. This conversion is based on a hard-coded knowledge base; no options and nothing to configure. The second approach is based on customer provided mapping tables and requires some serious footwork and planing ahead of the conversion. But this allows to rebuild expressions in a way that uses V3 features correctly. And, once those mapping tables are built, they can be re-used for other documents.

### V1 expression conversion By Name

Straight-forward conversion based on knowledge about the V1 expression structure and how it relates to V2 expressions. Finds the best possible match with V2 for a V1 expression. Supposed to be applied for an entire V1 document (find the version label in the Math Styles panel). The ideal result is V2 document with all V1 Math Styles and its related data removed.

The first and most important step is **Cleanup Document**. This action performs a number of MathTools related



checks to the document and fixes expression inconsistencies by stripping off their MathTools data and turning them into plain text, to avoid issues down the road. Beware, in a worst case scenario, all of the V1 expressions are plain text now. The document still is label as MathStyle V1 document. All unused Math Styles are removed. The second step is the conversion with **By Name > Convert**. This does the heavy lifting and take considerably long. A progress bar offers some feedback. All V1 Math Styles are converted into matching V2 Math Styles with the same name and all V1 expressions are rebuild as V2 expressions.

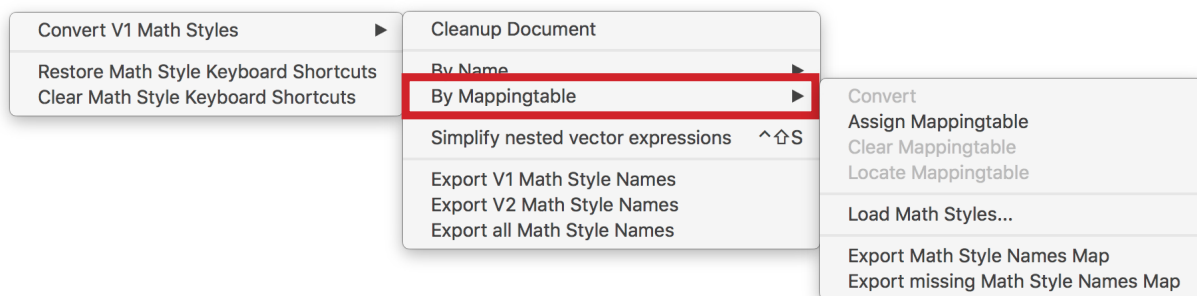
As final step, check and fine-tune the created V2 Math Styles. This is necessary, as V2 Math Styles work differently in many ways.

Note, if a V1 Math Style refers to characters that do not use Unicode encoding, like the MathematicalPi font family, for example, conversion may fail to map or the show unexpected results for those characters. This needs to be fixed manually. A better approach would be to switch to a Unicode encoded font before the conversion and fix the V1 Math Styles to refer to proper Unicode character codes. Or, use the second conversion approach and advice MathTools how to map a V1 Math Style to the V2 Math Style you find appropriate.

## V1 expression conversion By Mapping table

This conversion approach requires some serious planning beforehand to build proper V2 Math Styles that should be used as targets in the mapping table.

The mapping table is just a list of Math Style name pairs: V1  $\overline{\text{TAB}}$  V2. The underlying representation must match in a way that allows MathTools to identify how to move the content from the various parts from the V1 expression to the newly created V2 expression. It is not a fool-proof process. The conversion simply works through the Math Style name pairs provided, not asking if the result makes sense or not.



Step 1: Cleanup Document to eliminate issues from inconsistencies and remove unused V1 Math Styles.

Step 2: Load all relevant V2 Math Styles, or create them now. They're needed in next step.

Step 3: Create Mapping table; if a mapping table is readily available, proceed with step 4.

Step 3a: Export Math Style Names Map to get a list for all V1  $\overline{\text{TAB}}$  V2 Math Style name pairs that are considered a reasonable match. If no matching V2 Math Style can be identified, only the V1 Math Style name is listed.

Step 3b: Open the mapping table file (utf-8) in a text editor.

Step 3c: For each V1 Math Style name in the list identify the entry with the V2 Math Style name you want as target Math Style and remove the comment character (#), if necessary. Remove all other entries for that V1 Math Style name. The mapping table may not have multiple (uncommented) entries for a single V1 Math Style name.

Step 3d: Save mapping file.

Step 4: Assign Mapping table

Step 4a: Perform Export missing Math Style Names Map to verify that any V1 Math Style is covered in the mapping table. If the list is not empty, add a V1  $\overline{\text{TAB}}$  V2 entry for any V1 Math Style listed to the assigned mapping table and re-run that command. Repeat until list is empty and Convert is enabled.

Step 5: Once Convert is enabled, the conversion can be performed. If all went well, the document should have no V1 Math Styles listed anymore.

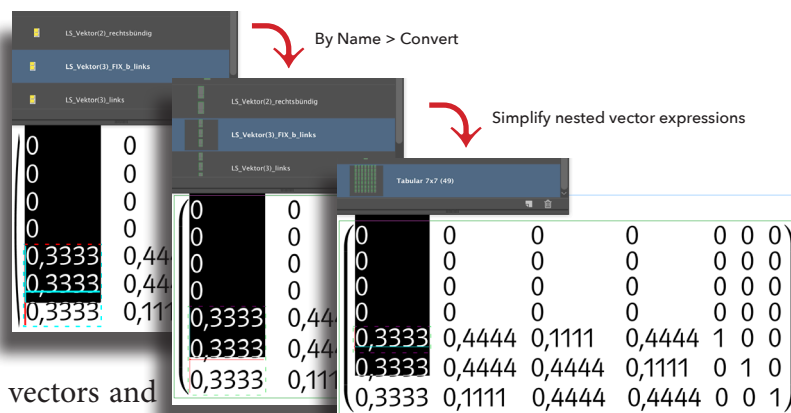
## Converting V1 Vector kind of expressions

MathTools V1 had very little support for vectors and none for matrices. Over time, support improved due to added templates for vectors with four and five elements. But initially, those had to be simulated by nesting 2D and 3D stacks.

For a matrix, a sequence of vectors had to be used.

These nested V1 expressions are converted as is into V2 Math Styles, even though V2 offers support for vectors and matrices.

Simplify nested vector expressions can be used to turn nested V2 vector expressions into a matrix. This action is selection aware and, thus, can be used for entire paragraphs or even stories. The result is a new V2 Math Style for a matrix with settings derived from the nested expressions. This may or may not work out well. In most cases it will.

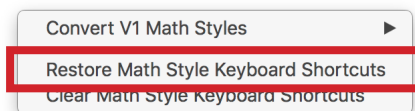


## Known issues

### Keyboard shortcuts for Math Styles become unavailable

If the Keyboard Shortcuts Editor Dialog is closed with Cancel, all the keyboard shortcuts assigned to Math Styles become temporarily unavailable. That's because cancelling the KBSC Editor Dialog restores the settings from the active configuration file. As keyboard shortcuts assigned to Math Styles are dynamic, they're not part of the configuration and, hence, cleared.

To restore them, use the **Math > Math Styles > Restore Math Style Keyboard Shortcuts**



Sure enough, you can assign an keyboard shortcut to this action...

### InCopy: Math Toolbox lost window handles and can't be moved

As a side-effect of switching and resetting Palette Workspaces in InCopy, Math Toolboxes docked to the Control Bar sometimes show up undocked and unmovable on the top-left corner on the main screen.

To solve that, use **Fix Docking** from the fly-out menu. This action is only enabled, if Math Toolbox detects this issue.

