

Creating L^AT_EX-Style Equations in FrameMaker

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NOTE: This file requires the Euclid font family - which is available at D+DD, but must be activated.

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Background. FrameMaker has a built-in equation editor that produces, in most cases, reasonable-looking equations. In some situations, however, it becomes necessary to use mathematical symbols that do not exist in

FrameMaker’s repertoire. Additionally, to the eyes of the mathematical purist, FrameMaker equations just don’t look right. FrameMaker provides mechanisms to deal with both situations:

1. Fonts that are richer than the standard Symbol font can be used for typesetting math. There are a number of such fonts available, e.g., Mathematical Pi and Lucida Math. This feature is fairly painless to use on a Macintosh; FrameMaker recognizes when such mathematical fonts are installed on the system and offers them as alternatives to the Symbol font (in the Equation Fonts dialog.) On Windows and Unix, however, this entails the laborious process of manually editing an “init” file in the FrameMaker directory to change the font used for mathematical symbols. Even then, the result is far from satisfactory, non-robust, and non-portable.
2. Users can extend FrameMaker’s repertoire by defining additional custom math elements. Any symbol in any font installed on the system can be made available for use in FrameMaker equations. When defining a new math element, a type is associated with it to help FrameMaker interpret it properly (e.g., an atom, an infix operator, a function, etc.) This facility is portable across OS platforms as long as the fonts used are available on all platforms.
3. The “equations just don’t look right” problem is one of relative spacing between the various math elements in an equation. FrameMaker’s default spacing can be adjusted using “micro positioning.” This can be done to a specific equation or to the template of a particular math element (e.g., the summation symbol) which changes its appearance in all equations. Some tinkering will improve the look of the equations, but to emulate the spacing used by, say, \LaTeX , is impossible.

In this document, we describe two options for creating \LaTeX -style mathematical equations in FrameMaker:

1. Using the above-mentioned extension and micro positioning mechanisms of FrameMaker’s built-in equation editor.
2. Using the MathType equation editor.

Both options require that the Euclid fonts be installed on your computer. These fonts are supplied with MathType and are based on the Computer Modern fonts typically used with \LaTeX .

Typesetting Equations Using MathType. MathType is a sophisticated equation editor that can be used as a plug-in with various document preparation systems. It is tightly integrated with the Office suite (Word, PowerPoint, etc.); in fact, its stripped-down version ships with the standard Office distribution. Its use with FrameMaker is slightly more cumbersome: equations created with MathType can be pasted as clickable objects within the FrameMaker document.

What makes the MathType option attractive is the fact that it produces equations that look very much like those produced by \LaTeX . To faithfully mimic the \LaTeX spacing in equations, it even has a factory-supplied preference file called `TexLook.eqp`. The only reason for not using MathType is that the FrameMaker source files are no longer self-contained and not as easy to share (unless the other users have access to MathType.) An alternative to the cut-and-paste approach that solves this problem is to embed the equations as EPS or PDF files; this works well but is more labor-intensive (saving MathType equations in files and importing them into FrameMaker.) All in all, MathType may be the most appropriate solution for “final copy” or to do just those equations whose spacing in FrameMaker does not look particularly good (e.g., summations.)

Extension of FrameMaker’s Equation Editor. \LaTeX -style equations can be created within FrameMaker by using its equation editor’s mechanism for re-defining the appearance of (most) built-in math elements as well as defining additional custom math elements. These definitions must be placed on special reference pages whose names start with “FrameMath”. Fortunately, this needs to be done only once; if such definitions are saved in a “template” file they can be imported and made available to any FrameMaker document.

The file you are currently reading has eight FrameMath reference pages that contain all the definitions necessary to produce \LaTeX -style equations, including definitions for most of the mathematical symbols available in the \LaTeX

Document Preparation System¹. In addition, the relative sizes of equation elements have been set to match Math-
Type's TexLook style:

		Equation Size			
		Relative	Small	Medium	Large
Equation Element	Full (Level 1)	100%	9 pt	10 pt	14 pt
	Integral	150%	13.5 pt	15 pt	21 pt
	Sigma	150%	13.5 pt	15 pt	21 pt
	Level 2	70%	6.3 pt	7 pt	9.8 pt
	Level 3	50%	4.5 pt	5 pt	7 pt

To use the definitions in this file, you must import them into your document by choosing File > Import > Formats and selecting "Math Definitions". There is only one caveat: once these definitions are imported and incorporated into your document, it is not possible to get rid of them except in one of two clumsy ways:

1. Open a new FrameMaker document and copy/paste your original document into it. This re-sets all the built-in math definitions to their defaults and removes all custom definitions. Custom elements in your equations display as "?CENName?" where CENName is the name of the missing custom element.
2. Import the default definitions from the file DefaultDefs.fm (which I can't seem to locate anymore!)

FrameMaker provides three mechanisms for inserting mathematical elements into equations:

1. Using an equations palette with a GUI
2. Using a scroll-down menu of mathematical element names
3. Using a \LaTeX -like keyboard sequence starting with a backslash

With very few exceptions, all three mechanisms are available for inserting built-in math elements. Custom math elements, on the other hand, can only be inserted using the scroll-down menu or the keyboard shortcuts. A complete listing of FrameMaker's built-in math elements is provided in Table 1 starting on Page 13; for each element, where possible, the table identifies: a) the element name on the scroll-down menu, b) the equation palette where the element resides, c) the element's " \LaTeX " backslash keystroke sequence, d) the element's reference in the \LaTeX manual, e) the element's graphic appearance, and f) additional notes and restrictions. The custom-defined elements are listed, alphabetically, in Table 2 starting on Page 22. For each of these elements, the table identifies: a) the element name on the scroll-down menu, b) the element's graphic appearance, and c) additional notes and clarifications. The keyboard shortcut for a custom element consists of a backslash followed by the element's menu name.

The math element definitions are provided on eight reference pages that get copied into your document when you File > Import > Formats. The definitions are arranged, whenever possible, in the order in which they appear in the \LaTeX manual. The names and content of these reference pages are as follows:

1. FrameMath (Greek Letters): Table 3.3 on page 43 of the \LaTeX manual
2. FrameMath (Binary Operation Symbols): Table 3.4 on page 44 of the \LaTeX manual
3. FrameMath (Relation Symbols): Table 3.5 on page 44 of the \LaTeX manual
4. FrameMath (Arrow Symbols): Table 3.6 on page 45 of the \LaTeX manual
5. FrameMath (Miscellaneous Symbols): Table 3.7 on page 45 of the \LaTeX manual
6. FrameMath (Variable-sized Symbols): Table 3.8 on page 45 of the \LaTeX manual
7. FrameMath (Log-like Functions): Table 3.9 on page 46 of the \LaTeX manual

1. Leslie Lamport, " \LaTeX : A Document Preparation System," Addison-Wesley Publishing Company, 1986.

8. FrameMath (Other/Alternative Symbols): FrameMaker built-in symbols for which there are no (named) \LaTeX counterparts as well as alternative definitions for FrameMaker symbols that cannot or should not be re-defined

Note that, in addition to being a typesetting system, FrameMaker's equation editor can symbolically evaluate certain mathematical expressions. To accomplish this, the definitions of some built-in operators are restricted and not available to be re-defined. Furthermore, the "Plus" operator, whose graphic definition can be overridden, should also not be re-defined since that messes up the format of the subtraction operator (which now appears as $x + -y$ suggesting that FrameMaker performs symbolic subtraction by adding the first operand to the negation of the second.) In either case, to maintain format consistency with the rest of the re-defined and custom-defined symbols, alternative names and definitions are provided for these operators on the Alternative Symbols page.

It should also be noted that FrameMaker disallows overriding the built-in definitions of all delimiters, matrices, and some functions. Built-in delimiters and matrix brackets are designed to expand around their arguments; this is not possible to duplicate with custom delimiters. As for the restriction on functions, it's not clear why the trigonometric and hyperbolic functions can be re-defined whereas log and lim cannot.

Finally, two built-in math elements that can be re-defined should not: "Horizontal List" and "Multiply" on the Operators page. Both seem to produce a juxtaposition of their arguments: "Horizontal List" inserts white space between its arguments; "Multiply" does not. In either case, once re-defined, these operators cannot be easily un-defined to their default settings.

You can view the definition of any math element by locating it on the appropriate reference page. Since it's not possible to print reference pages, "copies" of those pages that are suitable for printing are provided in the body of this document.

The rest of this file contains:

1. Layout of Reference Pages showing math element definitions
2. Alphabetical listing of all built-in math elements in Framemaker
3. Alphabetical listing of all custom-defined math elements
4. FrameMaker's math elements grouped according to the various palettes of its Equation Editor
5. \LaTeX math definitions grouped as in the \LaTeX User's Guide and Reference Manual
6. A side-by-side comparison of equations created by FrameMaker and MathType

Latex Table 3.3 p. 43: Greek Letters

<code>\x61 EuclidSymbol-Italic</code> a		Alpha <code>\alpha</code>	<code>\x73 EuclidSymbol-Italic</code> s		sigma <code>\sigma</code>
<code>\x62 EuclidSymbol-Italic</code> b		Beta <code>\beta</code>	<code>\x56 EuclidSymbol-Italic</code> V		varsigma <code>\varsigma</code>
<code>\x67 EuclidSymbol-Italic</code> g		gamma <code>\gamma</code>	<code>\x74 EuclidSymbol-Italic</code> t		tau <code>\tau</code>
<code>\x64 EuclidSymbol-Italic</code> d		delta <code>\delta</code>	<code>\x75 EuclidSymbol-Italic</code> u		upsilon <code>\upsilon</code>
<code>\xF2 EuclidMathOne</code> Alt+0242		epsilon <code>\epsilon</code>	<code>\x66 EuclidSymbol-Italic</code> f		phi <code>\phi</code>
<code>\x65 EuclidSymbol-Italic</code> e		N/A <code>\varepsilon</code>	<code>\x6A EuclidSymbol-Italic</code> j		varphi <code>\varphi</code>
<code>\x7A EuclidSymbol-Italic</code> z		zeta <code>\zeta</code>	<code>\x63 EuclidSymbol-Italic</code> c		Chi <code>\chi</code>
<code>\x68 EuclidSymbol-Italic</code> h		eta <code>\eta</code>	<code>\x79 EuclidSymbol-Italic</code> y		psi <code>\psi</code>
<code>\x71 EuclidSymbol-Italic</code> q		theta <code>\theta</code>	<code>\x77 EuclidSymbol-Italic</code> w		omega <code>\omega</code>
<code>\x4A EuclidSymbol-Italic</code> J		vartheta <code>\vartheta</code>	<code>\x47 EuclidSymbol</code> G		Gamma <code>\Gamma</code>
<code>\x69 EuclidSymbol-Italic</code> i		iota <code>\iota</code>	<code>\x44 EuclidSymbol</code> D		Delta <code>\Delta</code>
<code>\x6B EuclidSymbol-Italic</code> k		kappa <code>\kappa</code>	<code>\x51 EuclidSymbol</code> Q		Theta <code>\Theta</code>
<code>\x6C EuclidSymbol-Italic</code> l		lambda <code>\lambda</code>	<code>\x4C EuclidSymbol</code> L		Lambda <code>\Lambda</code>
<code>\x6D EuclidSymbol-Italic</code> m		mu <code>\mu</code>	<code>\x58 EuclidSymbol</code> X		Xi <code>\Xi</code>
<code>\x6E EuclidSymbol-Italic</code> n		nu <code>\nu</code>	<code>\x50 EuclidSymbol</code> P		Pi <code>\Pi</code>
<code>\x78 EuclidSymbol-Italic</code> x		xi <code>\xi</code>	<code>\x53 EuclidSymbol</code> S		Sigma <code>\Sigma</code>
<code>\x70 EuclidSymbol-Italic</code> p		pi <code>\pi</code>	<code>\xA1 EuclidSymbol</code> Alt+0161		Upsilon <code>\Upsilon</code>
<code>\x76 EuclidSymbol-Italic</code> v		Var Omega <code>\varpi</code>	<code>\x46 EuclidSymbol</code> F		Phi <code>\Phi</code>
<code>\x72 EuclidSymbol-Italic</code> r		rho <code>\rho</code>	<code>\x59 EuclidSymbol</code> Y		Psi <code>\Psi</code>
<code>\xF1 EuclidMathOne</code> Alt+0241		N/A <code>\varrho</code>	<code>\x57 EuclidSymbol</code> W		Omega <code>\Omega</code>

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Latex Table 3.4 p. 44: Binary Operation Symbols

<code>\xB1</code> EuclidSymbol Alt+0177		N/A <code>\bpm</code> (not <code>\pm</code>)	<code>\xE0</code> EuclidSymbol Alt+0224		Diamond N/A
<code>\x6D</code> EuclidExtra m		N/A <code>\bmp</code> (not <code>\mp</code>)	<code>\xE0</code> EuclidSymbol Alt+0224		Keyboard seq for Diamond <code>\diamond</code>
<code>\xB4</code> EuclidSymbol Alt+0180		Cross <code>\cross</code> (not <code>\times</code>)	<code>\x21</code> EuclidMathTwo !		N/A <code>\bigtriangleup</code>
<code>\xB8</code> EuclidSymbol Alt+0184		Horizontal Divide <code>\div</code>	<code>\x22</code> EuclidMathTwo "		N/A <code>\bigtriangledown</code>
<code>\x2A</code> EuclidSymbol *		N/A <code>\bast</code> (not <code>\ast</code>)	<code>\x3C</code> EuclidExtra <		N/A <code>\triangleleft</code>
<code>\xE5</code> EuclidMathOne Alt+0229		N/A <code>\star</code>	<code>\x3E</code> EuclidExtra >		N/A <code>\triangleright</code>
<code>\x64</code> EuclidExtra Alt+0209		N/A <code>\circ</code>	<code>\x3C</code> EuclidExtra <		N/A <code>\lhd</code>
<code>\xB7</code> EuclidSymbol Alt+0183		Dot <code>\bullet</code>	<code>\x3E</code> EuclidExtra >		N/A <code>\rhd</code>
<code>\xB7</code> Euclid Alt+0183		CDot <code>\cdot</code>	<code>\x28</code> EuclidMathTwo (N/A <code>\unlhd</code>
<code>\xC7</code> EuclidSymbol Alt+0199		Intersection <code>\cap</code>	<code>\x27</code> EuclidMathTwo ,		N/A <code>\unrhd</code>
<code>\xC8</code> EuclidSymbol Alt+0200		Union <code>\cup</code>	<code>\xC5</code> EuclidSymbol Alt+0197		Oplus <code>\oplus</code>
<code>\xE2</code> EuclidMathTwo Alt+0226		N/A <code>\uplus</code>	<code>\x24</code> EuclidMathOne \$		N/A <code>\ominus</code>
<code>\xF3</code> EuclidMathTwo Alt+0243		N/A <code>\sqcap</code>	<code>\xC4</code> EuclidSymbol Alt+0196		Otimes <code>\otimes</code>
<code>\xF2</code> EuclidMathTwo Alt+0242		N/A <code>\sqcup</code>	<code>\x25</code> EuclidMathOne %		N/A <code>\oslash</code>
<code>\xDA</code> EuclidSymbol Alt+0218		Logical Or <code>\vee</code>	<code>\x65</code> EuclidExtra e		N/A <code>\odot</code>
<code>\xD9</code> EuclidSymbol Alt+0217		Logical And <code>\wedge</code>	<code>\x64</code> EuclidExtra d		N/A <code>\bigcirc</code>
<code>\x82</code> EuclidMathOne Alt+0130		N/A <code>\setminus</code>	<code>\x86</code> Euclid Alt+0134		N/A <code>\bdagger</code> (not <code>\dagger</code>)
<code>\xAA</code> EuclidMathOne Alt+0170		N/A <code>\wr</code>	<code>\x87</code> Euclid Alt+0135		N/A <code>\ddagger</code>
			<code>\x43</code> EuclidExtra C		N/A <code>\amalg</code>

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Latex Table 3.5 p. 44: Relation Symbols

<code>\xA3</code> EuclidSymbol Alt+0163		Less Than or Equal <code>\leq</code>	<code>\x94</code> EuclidMathOne Alt+0148		N/A <code>\dashv</code>
<code>\x70</code> EuclidExtra p		N/A <code>\prec</code>	<code>\xBA</code> EuclidSymbol Alt+0186		Equivalent To <code>\equiv</code>
<code>\xB0</code> EuclidMathTwo Alt+0176		N/A <code>\preceq</code>	<code>\x7E</code> EuclidSymbol ~		Similar To <code>\sim</code>
<code>\x3D</code> EuclidExtra =		Much Less Than <code>\ll</code>	<code>\x3B</code> EuclidExtra ;		N/A <code>\simeq</code>
<code>\xCC</code> EuclidSymbol Alt+0204		Proper Subset <code>\subset</code>	<code>\xA9</code> EuclidMathOne Alt+0169		N/A <code>\asymp</code>
<code>\xCD</code> EuclidSymbol Alt+0205		Subset <code>\subteq</code>	<code>\xBB</code> EuclidSymbol Alt+0187		Approximately Equal To <code>\approx</code>
<code>\xF0</code> EuclidMathTwo Alt+0240		N/A <code>\sqsubset</code>	<code>\x40</code> EuclidSymbol @		Congruent To <code>\cong</code>
<code>\xF4</code> EuclidMathTwo Alt+0244		N/A <code>\sqsubteq</code>	<code>\xB9</code> EuclidSymbol Alt+0185		Not Equal <code>\noteq</code> (not <code>\neq</code>)
<code>\xCE</code> EuclidSymbol Alt+0206		In <code>\in</code>	<code>\x42</code> EuclidExtra B		N/A <code>\doteq</code>
<code>\x90</code> EuclidMathOne Alt+0144		N/A <code>\vdash</code>	<code>\xB5</code> EuclidSymbol Alt+0181		Proportional To <code>\propto</code>
<code>\xB3</code> EuclidSymbol Alt+0179		Greater Than or Equal <code>\geq</code>	<code>\x91</code> EuclidMathOne Alt+0145		N/A <code>\models</code>
<code>\x66</code> EuclidExtra f		N/A <code>\succ</code>	<code>\x5E</code> EuclidSymbol ^		Perpendicular To <code>\perp</code>
<code>\xB1</code> EuclidMathTwo Alt+0177		N/A <code>\succeq</code>	<code>\x7C</code> EuclidSymbol 		N/A <code>\mid</code>
<code>\x3F</code> EuclidExtra ?		Much Greater Than <code>\gg</code>	<code>\x50</code> EuclidExtra P		Parallel To <code>\parallel</code>
<code>\xC9</code> EuclidSymbol Alt+0201		Proper Superset <code>\supset</code>	<code>\xxx</code> FName Keystroke		N/A <code>\bowtie</code>
<code>\xCA</code> EuclidSymbol Alt+0202		Superset <code>\supseteq</code>	<code>\xxx</code> FName Keystroke		N/A <code>\Join</code>
<code>\xF1</code> EuclidMathTwo Alt+0241		N/A <code>\sqsupset</code>	<code>\x28</code> EuclidExtra (N/A <code>\smile</code>
<code>\xF5</code> EuclidMathTwo Alt+0245		N/A <code>\sqsupseteq</code>	<code>\x29</code> EuclidExtra)		N/A <code>\frown</code>
<code>\xE5</code> EuclidMathTwo Alt+0229		Such That <code>\ni</code>			

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Latex Table 3.6 p. 44: Arrow Symbols

<code>\xAC</code> EuclidSymbol Alt+0172		Left Arrow <code>\leftarrow</code>	<code>\xCC</code> EuclidMathOne Alt+0204		N/A <code>\hookrightarrow</code>
<code>\xDC</code> EuclidSymbol Alt+0220		Double Left Arrow <code>\Leftarrow</code>	<code>\xB6</code> EuclidMathOne Alt+0182		N/A <code>\rightharpoonup</code>
<code>\xAE</code> EuclidSymbol Alt+0174		Right Arrow <code>\rightarrow</code>	<code>\xB7</code> EuclidMathOne Alt+0183		N/A <code>\rightharpoondown</code>
<code>\xDE</code> EuclidSymbol Alt+0222		Double Right Arrow <code>\Rightarrow</code>	<code>\xCE</code> EuclidMathOne Alt+0206		N/A <code>\leadsto</code>
<code>\xAB</code> EuclidSymbol Alt+0171		Two-Sided Arrow <code>\leftrightarrow</code>	<code>\xAD</code> EuclidSymbol Alt+0173		N/A <code>\uparrow</code>
<code>\xAB</code> EuclidSymbol Alt+0171		Keyboard seq for Two-Sided Arrow <code>\leftrightarrow</code>	<code>\xDD</code> EuclidSymbol Alt+0221		N/A <code>\Uparrow</code>
<code>\xDB</code> EuclidSymbol Alt+0219		Double Two-Sided Arrow None	<code>\xAF</code> EuclidSymbol Alt+0175		N/A <code>\downarrow</code>
<code>\xDB</code> EuclidSymbol Alt+0219		KeySeq for Double Two-Sided Arrow <code>\Leftrightarrow</code>	<code>\xDF</code> EuclidSymbol Alt+0223		N/A <code>\Downarrow</code>
<code>\x61</code> EuclidExtra a		N/A <code>\mapsto</code>	<code>\x62</code> EuclidExtra b		N/A <code>\updownarrow</code>
<code>\xCD</code> EuclidMathOne Alt+0205		N/A <code>\hookleftarrow</code>	<code>\x63</code> EuclidExtra c		N/A <code>\Updownarrow</code>
<code>\xB4</code> EuclidMathOne Alt+0180		N/A <code>\leftharpoonup</code>	<code>\x5A</code> EuclidExtra Z		N/A <code>\nearrow</code>
<code>\xB5</code> EuclidMathOne Alt+0181		N/A <code>\leftharpoondown</code>	<code>\x5D</code> EuclidExtra]		N/A <code>\searrow</code>
<code>\xC7</code> EuclidMathOne Alt+0199		N/A <code>\rightleftharpoons</code>	<code>\x5B</code> EuclidExtra [N/A <code>\swarrow</code>
<code>\xxx</code> FName Keystroke		N/A <code>\longleftarrow</code>	<code>\x5E</code> EuclidExtra ^		N/A <code>\nwarrow</code>
<code>\xxx</code> FName Keystroke		N/A <code>\Longleftarrow</code>			
<code>\xxx</code> FName Keystroke		N/A <code>\longrightarrow</code>			
<code>\xxx</code> FName Keystroke		N/A <code>\Longrightarrow</code>			
<code>\xxx</code> FName Keystroke		N/A <code>\longleftftrightarrow</code>			
<code>\xxx</code> FName Keystroke		N/A <code>\Longleftftrightarrow</code>			
<code>\xxx</code> FName Keystroke		N/A <code>\longmapsto</code>			

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













Latex Table 3.7 p. 45: Miscellaneous Symbols

<code>\xC0</code> EuclidSymbol Alt+0192		Aleph <code>\aleph</code>	<code>\x22</code> EuclidSymbol “		For All <code>\forall</code>
<code>\xFF</code> EuclidMathOne Alt+0255		N/A <code>\hbar</code>	<code>\x24</code> EuclidSymbol \$		There Exists <code>\exists</code>
<code>\xF7</code> EuclidMathOne Alt+0247		N/A <code>\imath</code>	<code>\xD8</code> EuclidSymbol Alt+0216		Logical Not <code>\neg</code>
<code>\xF8</code> EuclidMathOne Alt+0248		N/A <code>\jmath</code>	<code>\xE7</code> EuclidMathOne Alt+0231		N/A <code>\flat</code>
<code>\x6C</code> EuclidExtra 1		N/A <code>\ell</code>	<code>\xE8</code> EuclidMathOne Alt+0232		N/A <code>\natural</code>
<code>\xC3</code> EuclidSymbol Alt+0195		Weierstrass <code>\wp</code>	<code>\xE9</code> EuclidMathOne Alt+0233		N/A <code>\sharp</code>
<code>\xC2</code> EuclidSymbol Alt+0194		R Fraktur <code>\Re</code>	<code>\x5C</code> Euclid \		N/A <code>\backslash</code>
<code>\xC1</code> EuclidSymbol Alt+0193		I Fraktur <code>\Im</code>	<code>\xB6</code> EuclidSymbol Alt+0182		Partial <code>\partial</code> partial does not work
<code>\x4A</code> EuclidExtra J		N/A <code>\mho</code>	<code>\xB6</code> EuclidSymbol Alt+0182		Overrides built-in seq that associates partial with “Partial Differential” <code>\partial</code>
<code>\xA2</code> EuclidSymbol Alt+0162		Minute <code>\prime</code>	<code>\xA5</code> EuclidSymbol Alt+0165		Infinity <code>\infty</code>
<code>\xC6</code> EuclidSymbol Alt+0198		Empty Set <code>\emptyset</code>	<code>\xxx</code> FName Keystroke		N/A <code>\Box</code>
<code>\xD1</code> EuclidSymbol Alt+0209		Del <code>\nabla</code>	<code>\xxx</code> FName Keystroke		N/A <code>\Diamond</code>
<code>\xD6</code> EuclidSymbol Alt+0214		N/A <code>\surd</code>	<code>\x56</code> EuclidExtra V		N/A <code>\triangle</code>
<code>\x95</code> EuclidMathOne Alt+0149		N/A <code>\top</code>	<code>\xA7</code> EuclidSymbol Alt+0167		N/A <code>\clubsuit</code>
<code>\x5E</code> EuclidSymbol ^		Perpendicular <code>\bot</code>	<code>\xA8</code> EuclidSymbol Alt+0168		N/A <code>\diamondsuit</code>
<code>\x50</code> EuclidSymbol P		N/A <code>\ </code>	<code>\xA9</code> EuclidSymbol Alt+0169		N/A <code>\heartsuit</code>
<code>\xD0</code> EuclidSymbol Alt+0208		Angle <code>\angle</code>	<code>\xAA</code> EuclidSymbol Alt+0170		N/A <code>\spadesuit</code>



KEY:

`\hexcode` Fontname Frame Name
Keystroke Latex Name

Latex Table 3.8 p. 45: Variable-sized Symbols

<code>\xE5</code> EuclidSymbol Alt+0229		Summation <code>\sum</code>	<code>\xF2</code> EuclidMathTwo Alt+0242		N/A <code>\bigsqcup</code>
<code>\xD5</code> EuclidSymbol Alt+0213		Product <code>\prod</code>	<code>\xDA</code> EuclidSymbol Alt+0218		N/A <code>\bigvee</code>
<code>\x43</code> EuclidExtra C		N/A <code>\coprod</code>	<code>\xD9</code> EuclidSymbol Alt+0217		N/A <code>\bigwedge</code>
<code>\xF2</code> EuclidSymbol Alt+0242		Integral <code>\int</code>	<code>\x65</code> EuclidExtra e		N/A <code>\bigodot</code>
<code>\xF2</code> EuclidSymbol <code>\xD1</code> EuclidExtra		Loop Integral <code>\oint</code>	<code>\xC4</code> EuclidSymbol Alt+0196		N/A <code>\bigotimes</code>
<code>\x49</code> EuclidExtra L		Extended Intersection <code>\bigcap</code>	<code>\xC5</code> EuclidSymbol Alt+0197		N/A <code>\bigoplus</code>
<code>\x55</code> EuclidExtra U		Extended Union <code>\bigcup</code>	<code>\xE2</code> EuclidMathTwo Alt+0226		N/A <code>\biguplus</code>

KEY:

`\hexcode` Fontname  Frame Name
Keystroke  Latex Name

Latex Table 3.9 p. 46: Log-like Functions that are Unavailable in FrameMaker



Euclid	deg	deg <code>\deg</code> (might interfere with Degree)	Euclid	lg	lg <code>\lg</code>
Euclid	det	det <code>\det</code>	Euclid	lim inf	liminf <code>\liminf</code>
Euclid	dim	dim <code>\dim</code>	Euclid	lim sup	limsup <code>\limsup</code>
Euclid	gcd	gcd <code>\gcd</code>	Euclid	max	max <code>\max</code>
Euclid	hom	hom <code>\hom</code>	Euclid	min	min <code>\min</code>
Euclid	inf	inf <code>\inf</code> (might interfere with Infinity)	Euclid	Pr	Pr <code>\Pr</code>
Euclid	ker	ker <code>\ker</code>	Euclid	sup	sup <code>\sup</code>

KEY:

Fontname graphic Frame Name
 Latex Name

Other/Alternative Symbols

FrameMaker Symbols with no Corresponding Latex Names

\backslash x44 EuclidSymbol D	Δ	Change \backslash change	\backslash xCF EuclidSymbol Alt+0207	?	Not In \backslash notin
\backslash x2C Euclid ,	,	Comma List \backslash comma	\backslash xCB EuclidSymbol Alt+0203	$\not\subset$	Not Subset \backslash notsubset
\backslash xD1B4 EuclidSymbol Alt+0209 Alt+0180	$\? \infty$	Curl \backslash curl	\backslash xB6 EuclidSymbol Alt+0182	\neq	Partial Differential \backslash partial
\backslash xB0 EuclidSymbol Alt+0176	.	Degree \backslash degree	\backslash x2B EuclidSymbol	+ $\boxed{\text{---}}$	Plus
\backslash x64 Euclid-Italic d	<i>d</i>	Differential \backslash diff	\backslash xB2 EuclidSymbol Alt+0178		Second \backslash pprime
\backslash xD1B7 EuclidSymbol Alt+0209 Alt+0183	$\? \prime$	Divergence \backslash diver	\backslash x5C EuclidSymbol \backslash	\therefore	Therefore \backslash therefore
\backslash xBC EuclidSymbol Alt+0188	\equiv	Ellipsis \backslash ldots	\backslash x2C EuclidSymbol ,	,	Unary Comma \backslash ucomma
\backslash x3D EuclidSymbol =	=	Equal \backslash equal	\backslash x3D EuclidSymbol =	=	Unary Equal \backslash uequal
\backslash xA4 EuclidSymbol Alt+0164		Fraction \backslash frac	\backslash x3B EuclidSymbol ;	;	Unary Semicolon \backslash semicolon
\backslash x3E EuclidSymbol >	>	Greater Than	\backslash x64 EuclidSymbol d	δ	Variational \backslash var
\backslash xxx FName Keystroke	$\boxed{\text{---}}$	Horizontal List			
\backslash x3C EuclidSymbol <	<	Less Than			
\backslash xxx FName Keystroke	$\boxed{\text{---}}$	Multiply			

Custom Alternative Symbols for FrameMaker Built-in Symbols that cannot or should not be Re-defined

\backslash x2B EuclidSymbol +	+	Plus \backslash add	\backslash x2D EuclidSymbol -	-	N/A \backslash sub
\backslash x2D EuclidSymbol -	-	Minus \backslash uminus	\backslash x86 Euclid Alt+0134	\dagger	Dagger \backslash fdagger
\backslash xB1 EuclidSymbol Alt+0177	\pm	Plus or Minus \backslash upm	\backslash x2A EuclidSymbol *	*	Conjugate \backslash conj
\backslash x6D EuclidExtra m	\mp	Minus or Plus \backslash ump	\backslash x21 EuclidSymbol !	!	Factorial \backslash factorial

KEY:

\backslash hexcode Fontname $\boxed{\text{graphic}}$ Frame Name
Keystroke $\boxed{\text{---}}$ Latex Name

Table 1: FrameMaker’s Built-in Math Elements (Sheet 1 of 9)

	FrameMaker		Latex		Graphic	Notes
	Name	Palette	Name	Reference		
1	Absolute Value	Operators Delimiters	<code>\abs</code>	—	$ x $	Can’t redefine.
2	Aleph	Symbols	<code>\aleph</code>	Table 3.7	\aleph	
3	Alpha	Symbols	<code>\alpha</code>	Table 3.3	α	
4	Angle	Operators	<code>\angle</code>	Table 3.7	\sphericalangle	
5	Anticommutator	Delimiters	—	—	$\{x, y\}$	Can’t redefine.
6	Approximately Equal To	Relations	<code>\approx</code>	Table 3.5	\approx	
7	Arg	—	<code>\arg</code> or <code>arg</code>	Table 3.9	$\arg x$	Shouldn’t redefine.
8	Beta	Symbols	<code>\beta</code>	Table 3.3	β	
9	Box	Operators	<code>\box</code>	—	$\square x$	Can’t redefine.
10	Box Dot	Operators	<code>\boxdot</code>	—	$\square \bullet x$	Can’t redefine.
11	Bra	Delimiters	<code>\bra</code>	—	$\langle x $	Can’t redefine.
12	Bracket	Delimiters	—	—	$\langle \rangle$	Can’t redefine.
13	CDot	Operators	<code>\cdot</code>	Table 3.4	$x \cdot y$	
14	Ceiling	Delimiters	<code>\ceil</code>	—	$\lceil x \rceil$	Can’t redefine.
15	Change	Operators	<code>\change</code>	—	Δx	
16	Chi	Symbols	<code>\chi</code>	Table 3.3	χ	
17	Choice	Delimiters	<code>\choice</code>	—	$\begin{pmatrix} x \\ y \end{pmatrix}$	Can’t redefine.
18	Comma List	Operators	<code>\comma</code>	—	x, y	
19	Commutator	Delimiters	—	—	$[x, y]$	Can’t redefine.
20	Congruent To	Relations	<code>\cong</code>	Table 3.5	\cong	
21	Conjugate	Operators	<code>\ast</code> <code>\conj</code>	—	x^* \bar{x}	Can’t redefine. <code>\conj</code> is alternative.
22	Cosecant	Functions	<code>\csc</code> or <code>csc</code>	Table 3.9	$\csc x$	Shouldn’t redefine.
23	Cosine	Functions	<code>\cos</code> or <code>cos</code>	Table 3.9	$\cos x$	Shouldn’t redefine.

Table 1: FrameMaker’s Built-in Math Elements (Sheet 2 of 9)

	FrameMaker		Latex		Graphic	Notes
	Name	Palette	Name	Reference		
24	Cotangent	Functions	<code>\cot</code> or <code>cot</code>	Table 3.9	$\cot x$	Shouldn’t redefine.
25	Cross	Operators	<code>\cross</code>	Table 3.4	$x \infty y$	Standard Latex name “ <code>\times</code> ” is paired by FrameMaker with “Multiply”.
26	Curl	Calculus	<code>\curl</code>	—	$? \infty x$	
27	Dagger	Operators	<code>\dagger</code> <code>\fdagger</code>	—	x^\dagger $x \dagger$	Can’t redefine. Standard Latex binary operator “ <code>\dagger</code> ” is renamed “ <code>\bdagger</code> ”. <code>\fdagger</code> is alternative.
28	Degree	Symbols	<code>\degree</code>	—	x°	
29	Del	Symbols	<code>\nabla</code>	Table 3.7	∇	
30	Delta	Symbols	<code>\Delta</code>	Table 3.3	Δ	
31	Diamond	Operators	<code>\diamond</code>	Table 3.4	$x \diamond y$	
32	Differential	Calculus	<code>\diff</code>	—	dx	
33	Divergence	Calculus	<code>\diver</code>	—	$?''x$	
34	Divide	Operators	<code>\over</code>	—	$\frac{x}{y}$	Can’t redefine. Behaves like Latex’s “ <code>\frac</code> ”.
35	Dot	Operators	<code>\bullet</code>	Table 3.4	$x \bullet y$	
36	Double Left Arrow	Relations	<code>\Leftarrow</code>	Table 3.6	$x \Leftarrow y$	
37	Double Right Arrow	Relations	<code>\Rightarrow</code>	Table 3.6	$x \Rightarrow y$	
38	Double Two-Sided Arrow	Relations	<code>\Leftrightarrow</code>	Table 3.6	$x \Leftrightarrow y$	
39	Down Brace	Delimiters	<code>\downbrace</code>	—	\overbrace{xyz}	Can’t redefine.
40	D’Alembertian	Operators	—	—	$\square^2 x$	Can’t redefine.
41	Ellipsis	Symbols	<code>\ldots</code>	p. 171	$x \equiv y$	
42	Empty Set	Symbols	<code>\emptyset</code>	Table 3.7	\emptyset	
43	Equal	Operators Relations	<code>\equal</code> or <code>=</code>	—	$x = y$	

Table 1: FrameMaker’s Built-in Math Elements (Sheet 3 of 9)

	FrameMaker		Latex		Graphic	Notes
	Name	Palette	Name	Reference		
44	Equivalent To	Relations	<code>\equiv</code>	Table 3.5	$x \mid y$	
45	Exp	—	<code>\exp</code> or <code>exp</code>	Table 3.9	$\exp x$	Shouldn’t redefine.
46	Expectation	Delimiters	—	—	$\langle x \rangle$	Can’t redefine.
47	Exponent	Operators	<code>\power</code>	—	x^y	Can’t redefine.
48	Extended Intersection	Large	<code>\bigcap</code>	Table 3.8	$\bigcap_x^y Z$	
49	Extended Union	Large	<code>\bigcup</code>	Table 3.8	$\bigcup_x^y Z$	
50	Factorial	Operators	<code>\fact</code> <code>\factorial</code>	—	$x!$ $x!$	Can’t redefine. <code>\factorial</code> is alternative.
51	Floor	Delimiters	<code>\floor</code>	—	$\lfloor x \rfloor$	Can’t redefine.
52	For All	Operators	<code>\forall</code>	Table 3.7	$\forall x$	
53	Fraction	Operators	<code>\frac</code>	—	$x \clubsuit y$	Behaves like Latex’s / (slash).
54	Function	Functions	<code>\func</code>	—	$f(x)$	Can’t redefine.
55	Gamma	Symbols	<code>\Gamma</code>	Table 3.3	Γ	
56	Gradient	Calculus	<code>\grad</code>	—	∇x	Can’t redefine.
57	Greater Than	Relations	$>$	—	$x > y$	
58	Greater Than or Equal	Relations	<code>\geq</code>	Table 3.5	$x \geq y$	
59	Horizontal Divide	Operators	<code>\div</code>	Table 3.4	$x \div y$	
60	Horizontal List	Operators	<code>\list</code>	—	$x \quad y$	Shouldn’t redefine.
61	Hyperbolic Cosecant	Functions	<code>\csch</code> or <code>csch</code>	—	$\operatorname{csch} x$	Shouldn’t redefine.
62	Hyperbolic Cosine	Functions	<code>\cosh</code> or <code>cosh</code>	Table 3.9	$\operatorname{cosh} x$	Shouldn’t redefine.
63	Hyperbolic Cotangent	Functions	<code>\coth</code> or <code>coth</code>	Table 3.9	$\operatorname{coth} x$	Shouldn’t redefine.
64	Hyperbolic Secant	Functions	<code>\sech</code> or <code>sech</code>	—	$\operatorname{sech} x$	Shouldn’t redefine.
65	Hyperbolic Sine	Functions	<code>\sinh</code> or <code>sinh</code>	Table 3.9	$\operatorname{sinh} x$	Shouldn’t redefine.
66	Hyperbolic Tangent	Functions	<code>\tanh</code> or <code>tanh</code>	Table 3.9	$\operatorname{tanh} x$	Shouldn’t redefine.

Table 1: FrameMaker’s Built-in Math Elements (Sheet 4 of 9)

	FrameMaker		Latex		Graphic	Notes
	Name	Palette	Name	Reference		
67	I Fraktur	Symbols	<code>\Im</code>	Table 3.7	Υ	
68	Imag	—	<code>\imag</code>	—	$\text{imag } x$	
69	In	Relations	<code>\in</code>	Table 3.5	$x \in y$	
70	Infinity	Symbols	<code>\infty</code>	Table 3.7	\bullet	
71	Inner Product	Delimiters	—	—	(x,y)	Can’t redefine.
72	Integral	Large	<code>\int</code>	Table 3.8	$\int_x^y Z$	
73	Intersection	Operators	<code>\cap</code>	Table 3.4	$x \leftrightarrow y$	
74	Inverse Cosecant	Functions	<code>\acsc</code> or <code>asec</code>	—	$\text{acsc } x$	Shouldn’t redefine.
75	Inverse Cosine	Functions	<code>\acos</code> or <code>acos</code>	—	$\text{acos } x$	Shouldn’t redefine. Same as Latex’s “ <code>\arccos</code> ”.
76	Inverse Cotangent	Functions	<code>\acot</code> or <code>acot</code>	—	$\text{acot } x$	Shouldn’t redefine.
77	Inverse Hyperbolic Cosecant	Functions	<code>\acsch</code> or <code>acsch</code>	—	$\text{acsch } x$	Shouldn’t redefine.
78	Inverse Hyperbolic Cosine	Functions	<code>\acosh</code> or <code>acosh</code>	—	$\text{acosh } x$	Shouldn’t redefine.
79	Inverse Hyperbolic Cotangent	Functions	<code>\acoth</code> or <code>acoth</code>	—	$\text{acoth } x$	Shouldn’t redefine.
80	Inverse Hyperbolic Secant	Functions	<code>\asech</code> or <code>asech</code>	—	$\text{asech } x$	Shouldn’t redefine.
81	Inverse Hyperbolic Sine	Functions	<code>\asinh</code> or <code>asinh</code>	—	$\text{asinh } x$	Shouldn’t redefine.
82	Inverse Hyperbolic Tangent	Functions	<code>\atanh</code> or <code>atanh</code>	—	$\text{atanh } x$	Shouldn’t redefine.
83	Inverse Secant	Functions	<code>\asec</code> or <code>asec</code>	—	$\text{asec } x$	Shouldn’t redefine.
84	Inverse Sine	Functions	<code>\asin</code> or <code>asin</code>	—	$\text{asin } x$	Shouldn’t redefine. Same as Latex’s “ <code>\arcsin</code> ”.
85	Inverse Tangent	Functions	<code>\atan</code> or <code>atan</code>	—	$\text{atan } x$	Shouldn’t redefine. Same as Latex’s “ <code>\arctan</code> ”.
86	Ket	Delimiters	<code>\ket</code>	—	$ \rangle$	Can’t redefine.
87	Lambda	Symbols	<code>\Lambda</code>	Table 3.3	Λ	
88	Laplacian	Calculus	<code>\lap</code>	—	$\nabla^2 x$	Can’t redefine.
89	Left Arrow	Relations	<code>\leftarrow</code>	Table 3.6	$x \blacklozenge y$	

Table 1: FrameMaker’s Built-in Math Elements (Sheet 5 of 9)

	FrameMaker		Latex		Graphic	Notes
	Name	Palette	Name	Reference		
90	Left Parenthesis	Delimiters	—	—	$(x$	Can’t redefine.
91	Less Than	Relations	$<$	—	$x < y$	
92	Less Than or Equal	Relations	\leq	Table 3.5	$x \leq y$	
93	Limit	Calculus Functions	\lim	Table 3.9	$\lim_x y$	Can’t redefine.
94	Log	Functions	\log or \log	Table 3.9	$\log x$	Can’t redefine.
95	Logical And	Operators	\wedge	Table 3.4	$x \wedge y$	
96	Logical Not	Operators	\neg	Table 3.7	$\neg x$	
97	Logical Or	Operators	\vee	Table 3.4	$x \vee y$	
98	Loop Integral	Large	\oint	Table 3.8	\oint_x^y	
99	Matrix	Matrices	—	—	$[\]$	Can’t redefine.
100	Minus	Operators	\minus or \uminus	—	$-x$ built-in $-x \ \uminus$	Can’t redefine. \uminus is alternative.
101	Minus or Plus	Operators	\mp \ump	Table 3.4	$\mp x$ built-in $\mp x \ \ump$	Can’t redefine. \ump is alternative.
102	Minute	Symbols	\prime	Table 3.7	$'$	
103	Much Greater Than	Relations	\gg	Table 3.5	$x \gg y$	
104	Much Less Than	Relations	\ll	Table 3.5	$x \ll y$	
105	Multiply	Operators	\times	—	xy	Shouldn’t redefine. Has no Latex counterpart.
106	Natural Logarithm	—	\ln	Table 3.9	$\ln x$	Shouldn’t redefine.
107	Norm	Delimiters	\norm	—	$\ x\ $	Can’t redefine.
108	Not Equal	Relations	$\not\equiv$	Table 3.5	$x \dots y$	Same as Latex’s “ \neq ”.
109	Not In	Relations	\notin	—	$x \notin y$	
110	Not Subset	Relations	$\not\subset$	—	$x \not\subset y$	

Table 1: FrameMaker’s Built-in Math Elements (Sheet 6 of 9)

	FrameMaker		Latex		Graphic	Notes
	Name	Palette	Name	Reference		
111	Omega	Symbols	<code>\Omega</code>	Table 3.3	Ω	
112	Oplus	Operators	<code>\oplus</code>	Table 3.4	$x \uparrow y$	
113	Otimes	Operators	<code>\otimes</code>	Table 3.4	$x f y$	
114	Overbar	Symbols Delimiters	<code>\overline</code>	p. 171	\overline{xyz}	Can’t redefine.
115	Parallel To	Relations	<code>\parallel</code>	Table 3.5	$x \parallel y$	
116	Parentheses	Delimiters	—	—	(x)	Can’t redefine.
117	Partial	Symbols	<code>\partial</code>	Table 3.7	\neq	
118	Partial Derivative Operator	Calculus	—	—	$\frac{\partial}{\partial x}$	Can’t redefine.
119	Partial Differential	Calculus	—	—	$\neq x$	
120	Perpendicular	Symbols	<code>\bot</code>	Table 3.7	\perp	
121	Perpendicular To	Relations	<code>\perp</code>	Table 3.5	$x \perp y$	
122	Phi	Symbols	<code>\Phi</code>	Table 3.3	Φ	
123	Pi	Symbols	<code>\Pi</code>	Table 3.3	Π	
124	Plus	Operators	<code>\plus</code> or <code>+</code> <code>\add</code>	—	$x + y$ built-in $x + y \ \backslash\text{add}$	Shouldn’t redefine. <code>\add</code> is alternative.
125	Plus or Minus	Operators	<code>\pm</code> <code>\upm</code>	Table 3.4	$\pm x$ built-in $\pm x \ \backslash\text{upm}$	Can’t redefine. <code>\upm</code> is alternative.
126	Product	Large	<code>\prod</code>	Table 3.8	$\prod_x^y Z$	
127	Proper Subset	Relations	<code>\subset</code>	Table 3.5	$x \subsetneq y$	
128	Proper Superset	Relations	<code>\supset</code>	Table 3.5	$x \supsetneq y$	
129	Proportional To	Relations	<code>\propto</code>	Table 3.5	$x \propto y$	
130	Psi	Symbols	<code>\Psi</code>	Table 3.3	Ψ	
131	R Fraktur	Symbols	<code>\Re</code>	Table 3.7	\leftarrow	

Table 1: FrameMaker’s Built-in Math Elements (Sheet 7 of 9)

	FrameMaker		Latex		Graphic	Notes
	Name	Palette	Name	Reference		
132	Real	—	<code>\real</code>	—	$\text{real } x$	
133	Right Arrow	Relations	<code>\rightarrow</code>	Table 3.6	$x \varnothing y$	
134	Right Parenthesis	Delimiters	—	—	$x)$	Can’t redefine.
135	Scientific Notation	Operators	—	—	$x \times 10^n$	Can’t redefine.
136	Secant	Functions	<code>\sec</code> or <code>sec</code>	Table 3.9	$\sec x$	Shouldn’t redefine.
137	Second	Symbols	<code>\pprime</code>	—	♠	
138	Sigma	Symbols	<code>\Sigma</code>	Table 3.3	Σ	
139	Sign	Functions	<code>\sgn</code> or <code>sgn</code>	—	$\text{sgn } x$	Shouldn’t redefine.
140	Similar To	Relations	<code>\sim</code>	Table 3.5	$x \sim y$	
141	Sine	Functions	<code>\sin</code> or <code>sin</code>	Table 3.9	$\sin x$	Shouldn’t redefine.
142	Square Root	Operators	<code>\sqrt</code>	p. 170	\sqrt{x}	Can’t redefine.
143	Subset	Relations	<code>\subseteq</code>	Table 3.5	$x \subseteq y$	
144	Substitution	Delimiters	<code>\subst</code>	—	$x $	Can’t redefine.
145	Such That	Relations	<code>\ni</code>	Table 3.5	$x \nexists y$	
146	Summation	Large	<code>\sum</code>	Table 3.8	$\sum_x^y Z$	
147	Superset	Relations	<code>\supseteq</code>	Table 3.5	$x \supset y$	
148	Tangent	Functions	<code>\tan</code> or <code>tan</code>	Table 3.9	$\tan x$	Shouldn’t redefine.
149	There Exists	Operators	<code>\exists</code>	Table 3.7	$\exists x$	
150	Therefore	Operators	<code>\therefore</code>	—	$\therefore x$	
151	Theta	Symbols	<code>\Theta</code>	Table 3.3	Θ	
152	Total Derivative Operator	Calculus	—	—	$\frac{d}{dx}$	Can’t redefine.
153	Two-Sided Arrow	Relations	<code>\leftrightarrow</code>	Table 3.6	$x \times y$	
154	Unary Comma	Operators	<code>\ucomma</code>	—	$,x$	

Table 1: FrameMaker's Built-in Math Elements (Sheet 8 of 9)

	FrameMaker		Latex		Graphic	Notes
	Name	Palette	Name	Reference		
155	Unary Equal	Operators, Relations	<code>\unequal</code>	—	$=x$	
156	Unary Semicolon	Operators	<code>\semicolon</code> or <code>;</code>		$;x$	
157	Union	Operators	<code>\cup</code>	Table 3.4	$x \approx y$	
158	Up Brace	Delimiters	<code>\upbrace</code>	—	\overbrace{xyz}	Can't redefine.
159	Upsilon	Symbols	<code>\Upsilon</code>	Table 3.3	\circ	
160	Var Omega	Symbols	<code>\varpi</code>	Table 3.3	ϖ	
161	Variational	Calculus	<code>\var</code>	—	δx	
162	Vertical List	Operators	—	—	x y	Can't redefine.
163	Weierstrauss	Symbols	<code>\wp</code>	Table 3.7	\angle	
164	Xi	Symbols	<code>\Xi</code>	Table 3.3	Ξ	
165	delta	Symbols	<code>\delta</code>	Table 3.3	δ	
166	epsilon	Symbols	<code>\epsilon</code>	Table 3.3		
167	eta	Symbols	<code>\eta</code>	Table 3.3	η	
168	gamma	Symbols	<code>\gamma</code>	Table 3.3	γ	
169	iota	Symbols	<code>\iota</code>	Table 3.3	ι	
170	kappa	Symbols	<code>\kappa</code>	Table 3.3	κ	
171	lambda	Symbols	<code>\lambda</code>	Table 3.3	λ	
172	mu	Symbols	<code>\mu</code>	Table 3.3	μ	
173	nu	Symbols	<code>\nu</code>	Table 3.3	ν	
174	omega	Symbols	<code>\omega</code>	Table 3.3	ω	
175	phi	Symbols	<code>\phi</code>	Table 3.3	ϕ	
176	pi	Symbols	<code>\pi</code>	Table 3.3	π	
177	psi	Symbols	<code>\psi</code>	Table 3.3	ψ	

Table 1: FrameMaker's Built-in Math Elements (Sheet 9 of 9)

	FrameMaker		Latex		Graphic	Notes
	Name	Palette	Name	Reference		
178	rho	Symbols	<code>\rho</code>	Table 3.3	ρ	
179	sigma	Symbols	<code>\sigma</code>	Table 3.3	σ	
180	tau	Symbols	<code>\tau</code>	Table 3.3	τ	
181	theta	Symbols	<code>\theta</code>	Table 3.3	θ	
182	upsilon	Symbols	<code>\upsilon</code>	Table 3.3	υ	
183	varphi	Symbols	<code>\varphi</code>	Table 3.3	φ	
184	varsigma	Symbols	<code>\varsigma</code>	Table 3.3	ς	
185	vartheta	Symbols	<code>\vartheta</code>	Table 3.3	ϑ	
186	xi	Symbols	<code>\xi</code>	Table 3.3	ξ	
187	zeta	Symbols	<code>\zeta</code>	Table 3.3	ζ	

Table 2: Custom Math Elements Defined in FrameLaTeXTemplate.fm (Sheet 1 of 5)

	Element Name	Graphic	Notes
1.	Downarrow	$x \Downarrow y$	
2.	Leftrightarrow	$x \Leftrightarrow y$	Built-in (Double Two-Sided Arrow) but doesn't have a keyboard sequence.
3.	Pr	$\Pr(x)$	
4.	Uparrow	$x \Uparrow y$	
5.	Updownarrow	$x \Updownarrow y$	
6.	add	$x + y$	Built-in (Plus, \plus) but shouldn't be re-defined.
7.	amalg	$x \amalg y$	
8.	asymp	$x \asymp y$	
9.	backslash	\backslash	
10.	bast	$x * y$	Built-in "Conjugate" operator is postfix, has keyboard sequence \ast, and can't be re-defined. Needed a new keyboard sequence for LaTeX's binary \ast operator.
11.	bdagger	$x \dagger y$	Built-in Dagger operator is postfix, has keyboard sequence \dagger, and can't be re-defined. Needed a new keyboard sequence for LaTeX's binary \dagger operator.
12.	bigcirc	$x \bigcirc y$	LaTeX's \bigcirc is bigger.
13.	bigodot	$\bigodot_x^y Z$	
14.	bigoplus	$\bigoplus_x^y Z$	
15.	bigotimes	$\bigotimes_x^y Z$	
16.	bigsqcup	$\bigsqcup_u^x Z$	
17.	bigtriangledown	$x \bigtriangledown y$	LaTeX's \bigtriangledown is bigger.
18.	bigtriangleup	$x \bigtriangleup y$	LaTeX's \bigtriangleup is bigger.
19.	biguplus	$\biguplus_x^y Z$	
20.	bigvee	$\bigvee_u^x Z$	
21.	bigwedge	$\bigwedge_u^x Z$	

Table 2: Custom Math Elements Defined in FrameLaTeXTemplate.fm (Sheet 2 of 5)

	Element Name	Graphic	Notes
22.	bmp	$x \mp y$	Built-in “Minus or Plus” operator is prefix, has keyboard sequence <code>\mp</code> , and can’t be redefined. Needed a new keyboard sequence for LaTeX’s binary <code>\mp</code> operator.
23.	bpm	$x \pm y$	Built-in “Plus or Minus” operator is prefix, has keyboard sequence <code>\pm</code> , and can’t be redefined. Needed a new keyboard sequence for LaTeX’s binary <code>\pm</code> operator.
24.	circ	$x \circ y$	
25.	clubsuit	\clubsuit	
26.	conj	x^*	Built-in (Conjugate, <code>\ast</code>) but can’t be re-defined.
27.	coprod	$\coprod_x^y Z$	
28.	dashv	$x \dashv y$	
29.	ddagger	$x \ddagger y$	
30.	det	$\det(\mathbf{A})$	
31.	diamond	$x \diamond y$	LaTeX’s <code>\diamond</code> is smaller.
32.	diamondsuit	\blacklozenge	LaTeX’s is white.
33.	dim	$\dim(x)$	
34.	doteq	$x \doteq y$	
35.	downarrow	$x \Downarrow y$	
36.	ell	ℓ	
37.	factorial	$x!$	Built-in (Factorial, <code>\fact</code>) but can’t be redefined.
38.	fdagger	$x \dagger$	Built-in postfix operator (Dagger, <code>\dagger</code>) but can’t be re-defined. The f in <code>\fdagger</code> stands for FrameMaker’s dagger since LaTeX’s <code>\dagger</code> is a binary operator.
39.	flat	\flat	
40.	frown	$x \frown y$	LaTeX’s <code>\frown</code> is larger.
41.	gcd	$\gcd(x)$	
42.	hbar	\hbar	
43.	heartsuit	\heartsuit	LaTeX’s is white.
44.	hom	$\text{hom}(x)$	
45.	hookleftarrow	$x \hookleftarrow y$	

Table 2: Custom Math Elements Defined in FrameLaTeXTemplate.fm (Sheet 3 of 5)

	Element Name	Graphic	Notes
46.	hookrightarrow	$x \Rightarrow y$	
47.	imath	\nmid	
48.	jmash		
49.	ker	$\ker(x)$	
50.	leadsto	$x \dashrightarrow y$	
51.	leftharpoondown	$x \swarrow y$	
52.	leftharpoonup	$x \searrow y$	
53.	leftrightarrow	$x \times y$	
54.	lg	$\lg(x)$	
55.	lhd	$x \triangleleft y$	
56.	liminf	$\liminf_x y$	The “x” operand is too big and there doesn’t seem to be a way to make it smaller.
57.	limsup	$\limsup_x y$	The “x” operand is too big and there doesn’t seem to be a way to make it smaller.
58.	mapsto	$x \mapsto y$	
59.	max	$\max(x)$	
60.	mho	\mho	
61.	mid	$x \mid y$	
62.	min	$\min(x)$	
63.	models	$x \models y$	
64.	natural	\natural	
65.	nearrow	\nearrow	
66.	nwarrow	\nwarrow	
67.	odot	$x \odot y$	
68.	ominus	$x \ominus y$	
69.	oslash	$x \oslash y$	

Table 2: Custom Math Elements Defined in FrameLaTeXTemplate.fm (Sheet 4 of 5)


	Element Name	Graphic	Notes
70.	partial	\neq	
71.	prec	$x \prec y$	
72.	preceq	$x \preceq y$	
73.	rhd	$x \triangleright y$	
74.	rightharpoondown	$x \rightarrow y$	
75.	rightharpoonup	$x \mapsto y$	
76.	rightleftharpoons	$x \rightleftharpoons y$	Different from LaTeX's.
77.	searrow	\searrow	
78.	setminus	$x \setminus y$	
79.	sharp	\Rightarrow	
80.	simeq	$x \simeq y$	
81.	smile	$x \smile y$	LaTeX's <code>\smile</code> is larger.
82.	spadesuit	?	
83.	sqcap	$x \sqcap y$	
84.	sqcup	$x \sqcup y$	
85.	sqsubset	$x \sqsubseteq y$	
86.	sqsubseteq	$x \sqsubseteqeq y$	
87.	sqsupset	$x \sqsupseteq y$	
88.	sqsupseteq	$x \sqsupseteq y$	
89.	star	$x \star y$	
90.	sub	$x - y$	Alternative for built-in binary subtraction operator.
91.	succ	$x \succ y$	
92.	succeq	$x \succeq y$	

Table 2: Custom Math Elements Defined in FrameLaTeXTemplate.fm (Sheet 5 of 5)

	Element Name	Graphic	Notes
93.	sup	$\sup(x)$	
94.	surd	$\sqrt{\quad}$	
95.	swarrow	\swarrow	
96.	top		
97.	triangle	Δ	LaTeX's <code>\triangle</code> is bigger.
98.	triangleleft	$x \triangleleft y$	LaTeX's <code>\triangleleft</code> is smaller.
99.	triangleright	$x \triangleright y$	LaTeX's <code>\triangleright</code> is smaller.
100.	uminus	$-x$	Built-in (Minus, <code>\minus</code>) but can't be re-defined.
101.	ump	$\mp x$	Built-in (Minus or Plus, <code>\mp</code>) but can't be redefined
102.	unlhd	$x \triangleleft y$	
103.	unrhd	$x \triangleright y$	
104.	uparrow	$x \uparrow y$	
105.	updownarrow	$x \updownarrow y$	
106.	uplus	$x \lesseqgtr y$	
107.	upm	$\pm x$	Built-in (Plus or Minus, <code>\pm</code>) but can't be redefined
108.	varepsilon	ε	
109.	varrho	\varnothing	
110.	vdash	$x \vdash y$	
111.	wr	$x \nVdash y$	

FrameMaker's Equation Editor: Symbols Page

α	β	Γ	γ	Δ	δ		ζ	η	Θ	θ	ϑ	ι
κ	Λ	λ	μ	ν	Ξ	ξ	Π	π	ρ	Σ	σ	ς
τ	\circ	υ	Φ	ϕ	φ	χ	Ψ	ψ	Ω	ω	ϖ	\neq

\bullet	\perp	\equiv	\lrcorner	Υ	\leftarrow	\angle	$\{$	$?$	\cdot	$'$	
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x' ' (left quote)	\tilde{x} ~ (tilde)	\bar{x} _ (underscore)	\grave{x}	\hat{x}
\dot{x} . (period)	\underline{x}	\underline{x}	\dot{x}	\widehat{x}

FrameMaker's Equation Editor: Operators Page

$x + y$	$x \clubsuit y$	$x = y$	$=x$	$,x$	$;x$	$?x$	x	x	y	xy	$ x $
$x - y$	$x \geq y$	$x ? y$	x, y	$-x$	$\mp x$	$\pm x$	x^y	x_y	x^y	x^y	x^y
$x \infty y$	$\frac{(xy)}{y}$	$x f y$	$x \uparrow y$	∇x	$\nabla_x y$	Δx	CTL-^	CTL-_	x^y	x^y	x^y
$x \cdot y$		$x ? y$	$x ? y$	\square	$\square \bullet$	\square^2	$\sqrt{(x)}$	$\sqrt[4]{(x)}$	$x \infty 10^y$	x^y	x^y
$x'' y$		$x \leftrightarrow y$	$x \approx y$	$\forall x$	$\exists x$	$\therefore x$	x^\dagger	$x!$	x^*	$?x$	

FrameMaker's Equation Editor: Large Page

\mathcal{R}^x	\mathcal{R}_a^x	$\overset{o}{\mathcal{R}}^x$	$\overset{b}{\mathcal{R}}_a^x$	$\overset{u}{\mathcal{R}}_a^x$	\bigvee^x	\bigvee_a^x	$\overset{o}{\bigvee}^x$	$\overset{u}{\bigvee}_a^x$	$\overset{o}{\bigvee}_a^x$	\bigcap^x	\bigcap_a^x	$\overset{o}{\bigcap}^x$	$\overset{u}{\bigcap}_a^x$	$\overset{o}{\bigcap}_a^x$
$?^x$	$?_a^x$	$\overset{o}{?}^x$	$\overset{u}{?}_a^x$	$\overset{u}{?}_a^x$	$/$	$/_a$	$\overset{o}{/}$	$\overset{u}{/}_a$	$\overset{o}{/}_a$	\bigcup^x	\bigcup_a^x	$\overset{o}{\bigcup}^x$	$\overset{u}{\bigcup}_a^x$	$\overset{o}{\bigcup}_a^x$

FrameMaker's Equation Editor: Delimiters Page

$\begin{pmatrix} x \\ y \\ z \end{pmatrix}$	$\begin{bmatrix} x \\ y \\ z \end{bmatrix}$	$\left\{ \begin{matrix} x \\ y \\ z \end{matrix} \right.$	$\left. \begin{matrix} x \\ y \\ z \end{matrix} \right\}$	$\langle x \rangle$	$\left \begin{matrix} x \\ y \\ z \end{matrix} \right $	$\begin{pmatrix} x \\ y \\ z \end{pmatrix}$
$\begin{pmatrix} x \\ y \\ z \end{pmatrix}$	$\begin{bmatrix} x \\ y \\ z \end{bmatrix}$	$\left\{ \begin{matrix} x \\ y \\ z \end{matrix} \right.$	$\left. \begin{matrix} x \\ y \\ z \end{matrix} \right\}_a$	$ x\rangle$	$\ \begin{matrix} x \\ y \\ z \end{matrix} \ $	
$\begin{pmatrix} x \\ y \\ z \end{pmatrix}$	$\begin{bmatrix} x \\ y \\ z \end{bmatrix}$	$\left. \begin{matrix} x \\ y \\ z \end{matrix} \right\}$	$\left. \begin{matrix} x^a \\ y \\ z \end{matrix} \right\}_b$	$\langle x $	$\left[\begin{matrix} x \\ y \\ z \end{matrix} \right]$	\overbrace{xyz}
(x,y)	$[x,y]$	$\{x,y\}$	\overline{xyz}	$\langle x y\rangle$	$\left[\begin{matrix} x \\ y \\ z \end{matrix} \right]$	\underbrace{xyz}

FrameMaker's Equation Editor: Relations Page

$x < y$	$x > y$	$x = y$	$x \sim y$	$x \wp y$	$x \dots y$	$x \blacklozenge y$	$x \emptyset y$	$x \times y$	$x \perp y$
$x \leq y$	$x ? y$	$x y$	$x \spadesuit y$	$x \amalg y$	$x \wr y$	$x ? y$	$x ? y$	x / y	$x \ y$
$x \ll y$	$x \gg y$	$x \dots y$	$x \cong y$	$x ? y$	$x \nabla y$	$x ? y$	$=x$	$x \nlessgtr y$	$x \propto y$

FrameMaker's Equation Editor: Calculus Page

$\frac{d}{dx}$	$\frac{dy}{dx}$	$\frac{\partial}{\partial x}$	$\frac{\partial y}{\partial x}$	δx	∇x
				dx	$?\infty x$
$\frac{d^2}{dx^2}$	$\frac{d^2 y}{dx^2}$	$\frac{\partial^2}{\partial x^2}$	$\frac{\partial^2 y}{\partial x^2}$	$\neq x$	$?'' x$
				$\lim_y x$	$\nabla^2 x$

FrameMaker's Equation Editor: Matrices Page

$\begin{bmatrix} a_{11} \end{bmatrix}$	$\begin{bmatrix} a_{11} & a_{12} \end{bmatrix}$	$\begin{bmatrix} a_{11} & a_{12} & a_{13} \end{bmatrix}$
$\begin{bmatrix} a_{11} \\ a_{21} \end{bmatrix}$	$\begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{bmatrix}$	$\begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \end{bmatrix}$
$\begin{bmatrix} a_{11} \\ a_{21} \\ a_{31} \end{bmatrix}$	$\begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \\ a_{31} & a_{32} \end{bmatrix}$	$\begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{bmatrix}$

FrameMaker's Equation Editor: Functions Page

$\sin x$	$\operatorname{asin} x$	$\sinh x$	$\operatorname{asinh} x$	$\log x$
$\cos x$	$\operatorname{acos} x$	$\cosh x$	$\operatorname{acosh} x$	$\operatorname{sgn} x$
$\tan x$	$\operatorname{atan} x$	$\tanh x$	$\operatorname{atanh} x$	$f(x)$
$\sec x$	$\operatorname{asec} x$	$\operatorname{sech} x$	$\operatorname{asech} x$	
$\csc x$	$\operatorname{acsc} x$	$\operatorname{csch} x$	$\operatorname{acsch} x$	\lim_x y
$\cot x$	$\operatorname{acot} x$	$\operatorname{coth} x$	$\operatorname{acoth} x$	

L^AT_EX Table 3.3:

α	<code>\alpha</code>	θ	<code>\theta</code>	o	<code>o</code>	τ	<code>\tau</code>
β	<code>\beta</code>	ϑ	<code>\vartheta</code>	π	<code>\pi</code>	υ	<code>\upsilon</code>
γ	<code>\gamma</code>	ι	<code>\iota</code>	ϖ	<code>\varpi</code>	ϕ	<code>\phi</code>
δ	<code>\delta</code>	κ	<code>\kappa</code>	ρ	<code>\rho</code>	φ	<code>\varphi</code>
	<code>\epsilon</code>	λ	<code>\lambda</code>	ϱ	<code>\varrho</code>	χ	<code>\chi</code>
ε	<code>\varepsilon</code>	μ	<code>\mu</code>	σ	<code>\sigma</code>	ψ	<code>\psi</code>
ζ	<code>\zeta</code>	ν	<code>\nu</code>	ς	<code>\varsigma</code>	ω	<code>\omega</code>
η	<code>\eta</code>	ξ	<code>\xi</code>				

Γ	<code>\Gamma</code>	Λ	<code>\Lambda</code>	Σ	<code>\Sigma</code>	Ψ	<code>\Psi</code>
Δ	<code>\Delta</code>	Ξ	<code>\Xi</code>	\circ	<code>\circ</code>	Ω	<code>\Omega</code>
Θ	<code>\Theta</code>	Π	<code>\Pi</code>	Φ	<code>\Phi</code>		

L^AT_EX Table 3.4:

\pm	<code>\bpm</code>	\leftrightarrow	<code>\cap</code>	$?$	Diamond	\uparrow	<code>\oplus</code>
\mp	<code>\bmp</code>	\approx	<code>\cup</code>	Δ	<code>\bigtriangleup</code>	\ominus	<code>\ominus</code>
∞	<code>\cross</code>	\lessgtr	<code>\uplus</code>	∇	<code>\bigtriangledown</code>	f	<code>\otimes</code>
\geq	<code>\div</code>	$\not\leq$	<code>\sqcap</code>	\triangleleft	<code>\triangleleft</code>	\oslash	<code>\oslash</code>
$*$	<code>\bast</code>	$\not\geq$	<code>\sqcup</code>	\triangleright	<code>\triangleright</code>	\odot	<code>\odot</code>
\dagger	<code>\star</code>	$?$	<code>\vee</code>	\triangleleft	<code>\lhd</code>	\bigcirc	<code>\bigcirc</code>
	<code>\circ</code>	$?$	<code>\wedge</code>	\triangleright	<code>\rhd</code>	\dagger	<code>\dagger</code>
$"$	<code>\bullet</code>	\Rightarrow	<code>\setminusminus</code>	\triangleleft	<code>\unlhd</code>	\ddagger	<code>\ddagger</code>
\cdot	<code>\cdot</code>	$\not\Rightarrow$	<code>wr</code>	\triangleright	<code>\unrhd</code>	\amalg	<code>\amalg</code>

L^AT_EX Table 3.5:

\leq	<code>\leq</code>	$?$	<code>\geq</code>	$ $	<code>\equiv</code>		<code>\models</code>
\prec	<code>\prec</code>	\succ	<code>\succ</code>	\sim	<code>\sim</code>	\perp	<code>\perp</code>
\preceq	<code>\preceq</code>	\succceq	<code>\succceq</code>	\simeq	<code>\simeq</code>	$ $	<code>\mid</code>
\ll	<code>\ll</code>	\gg	<code>\gg</code>	\asymp	<code>\asymp</code>	\parallel	<code>\parallel</code>
\subset	<code>\subset</code>	\supset	<code>\supset</code>	\approx	<code>\approx</code>		<code>\bowtie</code>
\subseteq	<code>\subseteq</code>	\supseteq	<code>\supseteq</code>	\cong	<code>\cong</code>		<code>\Join</code>
\sqsubset	<code>\sqsubset</code>	\sqsupset	<code>\sqsupset</code>	\dots	<code>\dots</code>	\smile	<code>\smile</code>
\sqsubseteq	<code>\sqsubseteq</code>	\sqsupseteq	<code>\sqsupseteq</code>	\doteq	<code>\doteq</code>	\frown	<code>\frown</code>
$?$	<code>\in</code>	\ni	<code>\ni</code>	\propto	<code>\propto</code>		
\dagger	<code>\vdash</code>		<code>\dashv</code>				

L^AT_EX Table 3.6:

◆	<code>\leftarrow</code>		<code>\longleftarrow</code>	<i>f</i>	<code>\uparrow</code>
?	<code>\Leftarrow</code>		<code>\Lrightarrow</code>	?	<code>\Uparrow</code>
∅	<code>\rightarrow</code>		<code>\longrightarrow</code>	↯	<code>\downarrow</code>
?	<code>\Rightarrow</code>		<code>\Rrightarrow</code>	?	<code>\Downarrow</code>
×	<code>\leftrightarrow</code>		<code>\longleftrightarrow</code>	↕	<code>\updownarrow</code>
/	<code>\Leftrightarrow</code>		<code>\Longleftrightarrow</code>	↕	<code>\Updownarrow</code>
↦	<code>\mapsto</code>		<code>\longmapsto</code>	↗	<code>\nearrow</code>
	<code>\hookrightarrow</code>	⇒	<code>\hookrightarrow</code>	↘	<code>\searrow</code>
⌞	<code>\leftharpoonup</code>	↓	<code>\rightharpoonup</code>	↙	<code>\swarrow</code>
⌟	<code>\leftharpoondown</code>	→	<code>\rightharpoondown</code>	↖	<code>\nwarrow</code>
↔	<code>\rightleftharpoons</code>	↑	<code>\leadsto</code>		

L^AT_EX Table 3.7:

↯	<code>\aleph</code>	'	<code>\prime</code>	∀	<code>\forall</code>	•	<code>\infty</code>
	<code>\hbar</code>	∅	<code>\emptyset</code>	∃	<code>\exists</code>		<code>\Box</code>
ℵ	<code>\imath</code>	?	<code>\nabla</code>	?	<code>\neg</code>		<code>\Diamond</code>
	<code>\jmath</code>	√	<code>\surd</code>	≠	<code>\neq</code>		<code>\triangle</code>
ℓ	<code>\ell</code>		<code>\top</code>	ℕ	<code>\natural</code>	♣	<code>\clubsuit</code>
∠	<code>\wp</code>	⊥	<code>\bot</code>	⇒	<code>\sharp</code>	♦	<code>\diamondsuit</code>
←	<code>\Re</code>		<code>\ </code>		<code>\backslash</code>	♥	<code>\heartsuit</code>
ℑ	<code>\Im</code>	?	<code>\angle</code>	≠	<code>\partial</code>	♠	<code>\spadesuit</code>
∪	<code>\mho</code>						

L^AT_EX Table 3.8:

ℜ	<code>\sum</code>	∩	<code>\bigcap</code>	⊙	<code>\bigodot</code>
?	<code>\prod</code>	∪	<code>\bigcup</code>	<i>f</i>	<code>\bigotimes</code>
∏	<code>\coprod</code>	⊄	<code>\bigsqcup</code>	↑	<code>\bigoplus</code>
∫	<code>\int</code>	?	<code>\bigvee</code>	⋈	<code>\biguplus</code>
/	<code>\oint</code>	?	<code>\bigwedge</code>		

L^AT_EX Table 3.9:

acos	<code>\acos</code>	cos	<code>\cos</code>	csc	<code>\csc</code>	exp	<code>\exp</code>	ker	<code>\ker</code>	lim sup	<code>\limsup</code>	min	<code>\min</code>	sinh	<code>\sinh</code>
asin	<code>\asin</code>	cosh	<code>\cosh</code>		<code>\deg</code>	gcd	<code>\gcd</code>	lg	<code>\lg</code>	ln	<code>\ln</code>	Pr	<code>\Pr</code>	sup	<code>\sup</code>
atan	<code>\atan</code>	cot	<code>\cot</code>	det	<code>\det</code>	hom	<code>\hom</code>	lim	<code>\lim</code>	log	<code>\log</code>	sec	<code>\sec</code>	tan	<code>\tan</code>
arg	<code>\arg</code>	coth	<code>\coth</code>	dim	<code>\dim</code>		<code>\inf</code>	lim inf	<code>\liminf</code>	max	<code>\max</code>	sin	<code>\sin</code>	tanh	<code>\tanh</code>

Comparison between FrameMaker and MathType

FrameMaker		MathType
Default	Adjusted	
$y = \sqrt{\frac{3}{16}} \sin x - c^2 \pm \mu \tan x$		$y = \sqrt{\frac{3}{16}} \sin x - c^2 \pm \mu \tan x$
$\sigma_X^2 = \frac{1}{n} \left\{ \mathfrak{R} \sum_{i=1}^n X_i^2 - n\bar{X}^2 \right\}$	$\sigma_X^2 = \frac{1}{n} \left\{ \mathfrak{R} \sum_{i=1}^n X_i^2 - n\bar{X}^2 \right\}$	$\sigma_X^2 = \frac{1}{n} \left\{ \sum_{i=1}^n X_i^2 - n\bar{X}^2 \right\}$
$s_X^2 = \sqrt{\frac{1}{n-1} \left\{ \mathfrak{R} \sum_{i=1}^n X_i^2 - n\bar{X}^2 \right\}}$	$s_X^2 = \sqrt{\frac{1}{n-1} \left\{ \mathfrak{R} \sum_{i=1}^n X_i^2 - n\bar{X}^2 \right\}}$	$s_X^2 = \sqrt{\frac{1}{n-1} \left\{ \sum_{i=1}^n X_i^2 - n\bar{X}^2 \right\}}$
$\text{Prob}(A B) = \frac{\text{Prob}(A \leftrightarrow B)}{\text{Prob}(B)}$ <p style="text-align: center;">= <math>\frac{\text{Probability that both A and B occur}}{\text{Probability that B occurs}}</math></p>		$\text{Prob}(A B) = \frac{\text{Prob}(A \cap B)}{\text{Prob}(B)}$ <p style="text-align: center;">= <math>\frac{\text{Probability that both A and B occur}}{\text{Probability that B occurs}}</math></p>
$\bigvee_0^1 a(x) dx \leq \limsup_{n \in \bullet} \phi_n(a)$ $\bigvee_0^1 a(x)b(x) dx \leq \limsup_{n \in \bullet} \psi_n(a, b)$		$\int_0^1 a(x) dx \leq \limsup_{n \rightarrow \infty} \phi_n(a)$ $\int_0^1 a(x)b(x) dx \leq \limsup_{n \rightarrow \infty} \psi_n(a, b)$
$p(\lambda) = \det(\lambda \mathbf{I} - \mathbf{A}) = \begin{vmatrix} \lambda - a_{11} & -a_{12} \\ -a_{21} & \lambda - a_{22} \end{vmatrix}$		$p(\lambda) = \det(\lambda \mathbf{I} - \mathbf{A}) = \begin{vmatrix} \lambda - a_{11} & -a_{12} \\ -a_{21} & \lambda - a_{22} \end{vmatrix}$