How to use the MathDox Formula Editor

1 Introduction

Telmme is the mathematical e-learning site of the three technical universities of the Netherlands:

- Technical University of Delft;
- Eindhoven University of Technology;
- University of Twente.

At Telmme you will find various study material to prepare for a master's study at one of the above institutions.

Telmme contains many mathematical exercises, that ask students to provide mathematical formulae as answers. These formulae can be provided by the use of the **MathDox Formula editor**.

In the next section we will explain how to use this MathDox Formula Editor.

2 How to use Telmme the MathDox Formula Editor.

The MathDox formula editor cosists of two parts: an input box (little box with a blue border) and a palette.

To input some mathematical formula you should place the cursor in the input box. Then you can either type, or click on some symbols in the palette.

In the table below you find the most important symbols and the syntax to type them in the input box. Be aware of the fact that (in most cases) you **should use the multiplication symbol** $*$!

For example

$$(f+g)(3+x)$$

is cosidered to be the application of the function $f+g$ on the argument $3+x$, while

$$(f+g)*(3+x) = f*3 + f*x + g*3 + g*x$$

To help you, the editor understands that

$$3(x+y) = 3x + 3y = 3*x + 3*y.$$

But this is only the case when the formula contains an integer followed by a variable of brackets $(\dots)$.

So the editor considers

$$abc$$

to be a variable with name 'abc' rather than the product of three variables a, b and c.

symbool in editor	**syntax**	**description**
$\cos(x)$	`cos(x)`	cosin of x
$\sin(x)$	`sin(x)`	sin of x
$\tan(x)$	`tan(x)`	tangent of x
$\arccos(x)$	`arccos(x)`	arccosin of x
$\arcsin(x)$	`arcsin(x)`	arcsin of x
$\arctan(x)$	`arctan(x)`	arctangent of x
$\ln(x)$	`ln(x)`	natural logarithm of x
$\log_a(x)$	`log(a,x)`	base a logarithm of x
x^y	`x^y`	x to the power y
e^x	`e^x` or `exp(x)`	e to the power x
$\sqrt{x}$	`rt(x,2)`	square root of x
$\sqrt[y]{x}$	`rt(x,y)`	y-th root of x
$x < y$	`x <y`	x less than y
$x \leq y$	`x <= y`	x less than or equal to y
$x > y$	`x >y`	x greater than y
$x \geq y$	`x >= y`	x greater than or equal to y
$x \wedge y$	`x && y`	x and y
$x \vee y$	`x || y`	x or y
$\lvert x \rvert$	`|x|`	absolute value of x
$\frac{x}{y}$	`x/y`	x divided by y
$x \cdot y$	`x*y`	x times y
π	`pi`	the constant π
i	`i`	the constant i
e	`e`	the constant e
$\{1,2,3\}$	`{1,2,3}`	the (ordered) list $\{1,2,3\}$
$\begin{pmatrix}1 & 2\\ 3 & 4\end{pmatrix}$	`[[1,2],[3,4]]`	matrix
$\begin{pmatrix}1\\ 2\end{pmatrix}$	`[1,2]`	vector