CO^{W}TCH$_{O}$OX math system

This document will describe hwo the math system works.

Crate a math environnement

There are two ways to do that:

- Use dollars for inline math: `$This is math$`
- Use double dollars for a big, centered block of math: `$$This is math$$`

These tag will be converted into `<mathnode>` tags, with double-dollar maths having the `center` class.

Basic usage

Inside math, comments, HTML tags and everything else is still supported. All spaces in math are not displayed, you can add them manually by escaping them: `\ ` (yes there is a space after the backslash).

In math you can use **math operators**. The syntax is:

```
?operator_name {first argument} {second argument} ...
```

For instance, `?frac{1}{2}` gives $\frac{1}{2}$. If an argument is only one objet, you can omit the braces: `?frac 1 2`

Some operators have an **alias**. It allow them to be called in a shorted way. For instance, to show ∈, you can use `?belongsto` or it's alias `€`. Aliases takes arguments exactly in the same way.
Some aliases are **infix**. That means they have two arguments, and that the first should be placed *before* the alias. Here for a fraction: `1 / 2` or an exponent: `2 ^ n`.

You can add braces (`{}`) to group things. (It will create additional `<div>`s)

Tags

Tags inside math works exactly in the same way, except for regular tags, that need an additional percentage sign as shown here:

```
<%div>This is inside a div</div>
<%br/>
```

It prevent any ambiguities with some math symbols. Custom tags (with `!`), and arguments tags (with `:`) are not affected.

Greek letters

You can use greek letters in math. To do that, use `§`, followed by the equivalent letter. For uppercase, use an uppercase letter. For example, `§d` gives δ, and `§D` gives Δ.

`§a`	α		`§b`	β
`§c`	ψ		`§d`	δ
`§e`	ε		`§f`	φ
`§g`	γ		`§h`	η
`§i`	ι		`§j`	ξ
`§k`	$\varkappa$		`§l`	λ
`§m`	μ		`§n`	ν
`§o`	o		`§p`	π
`§r`	ϱ		`§s`	σ
`§t`	τ		`§u`	ϑ
`§v`	ω		`§x`	χ
`§y`	υ		`§z`	ζ

Table 1: List of greek letters

Parentheses

Parentheses will match the height of the inner content.

Source	Result
`(1/2)`	$\left(\frac{1}{2}\right)$
`[1/2]`	$\left[\frac{1}{2}\right]$
`%{1/2%}`	$\left\{\frac{1}{2}\right\}$

Table 1: Parentheses

Be carful, because sometimes you would have to write something like $\left]\frac{1}{2}, \frac{2}{3}\right]$. You will have to tell the compiler that the first bracket should math with the one after (and not with a bracket before!). You can do that by putting an exclamation mark before the bracket: `!]1/2, 2/3]`
`%{` can match with `}`, this is useful to make systems.