# GUI input tools
## for Mathematics

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UK Mathematical Content Workshop

Milton Keynes

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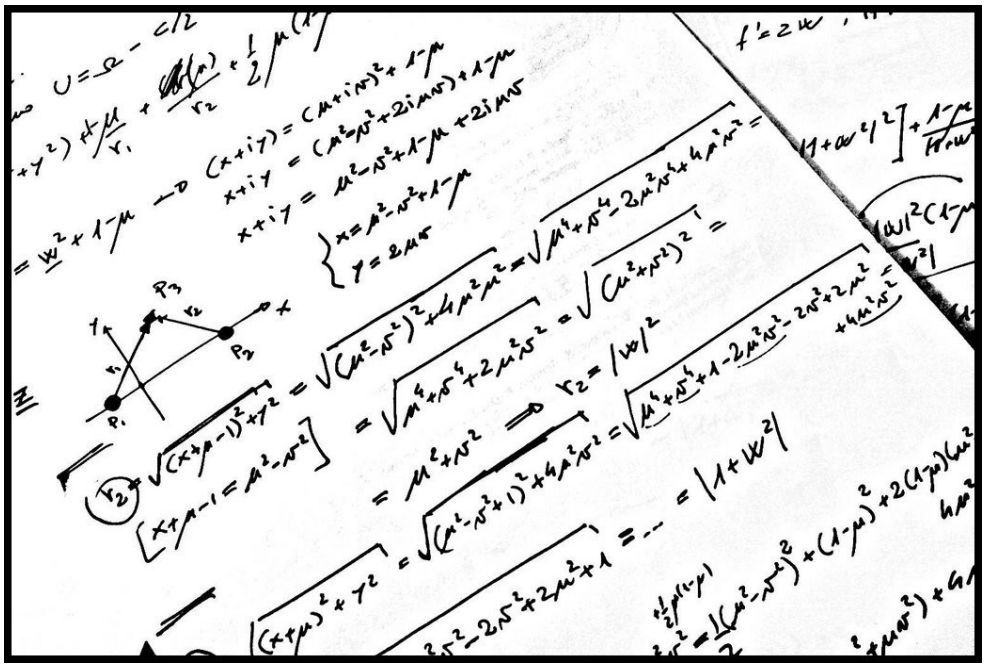
http://groups.google.com/group/uk-math-content-2009/files/

# GUI is nice to end users

Using emacs to edit LaTeX code then run $n$ command lines to compile and output a pdf may be fun, but only to a particular type of people.

# Their Purpose

**From:**



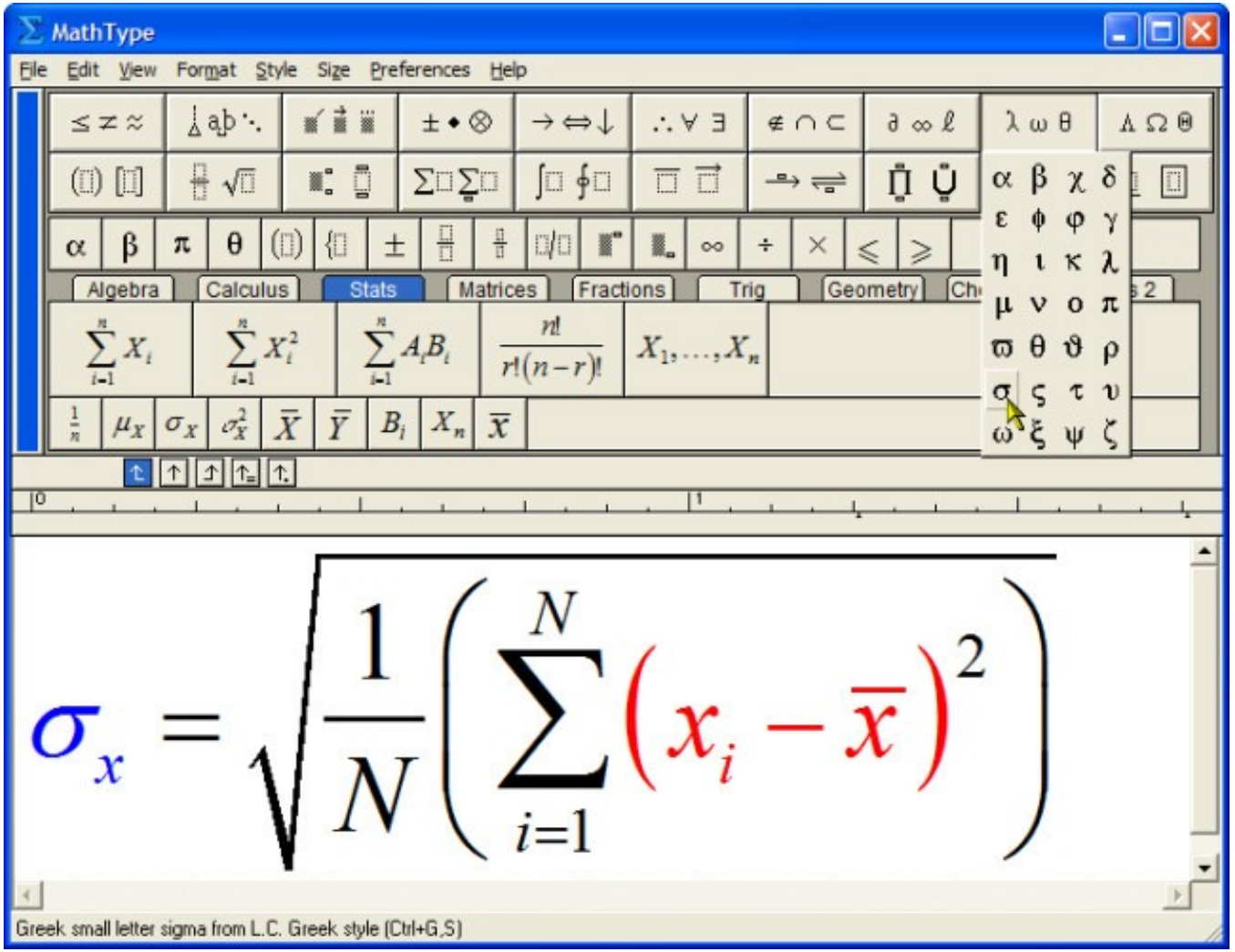
**To:**

A portable, standardised, digital format that we can share integrate and reuse.

# Tools Survey: What's around ?

- MathType
- MathTran
- Wiris
- Edoboard
- Sitmo
- Word 2007
- Formulator
- Publicon (Wolfram Research)
- Math Magic
- Detexify
- Math Input Panel (Windows 7)

# MathType




http://www.dessci.com/en/products/mathtype/

# MathType

## Pros

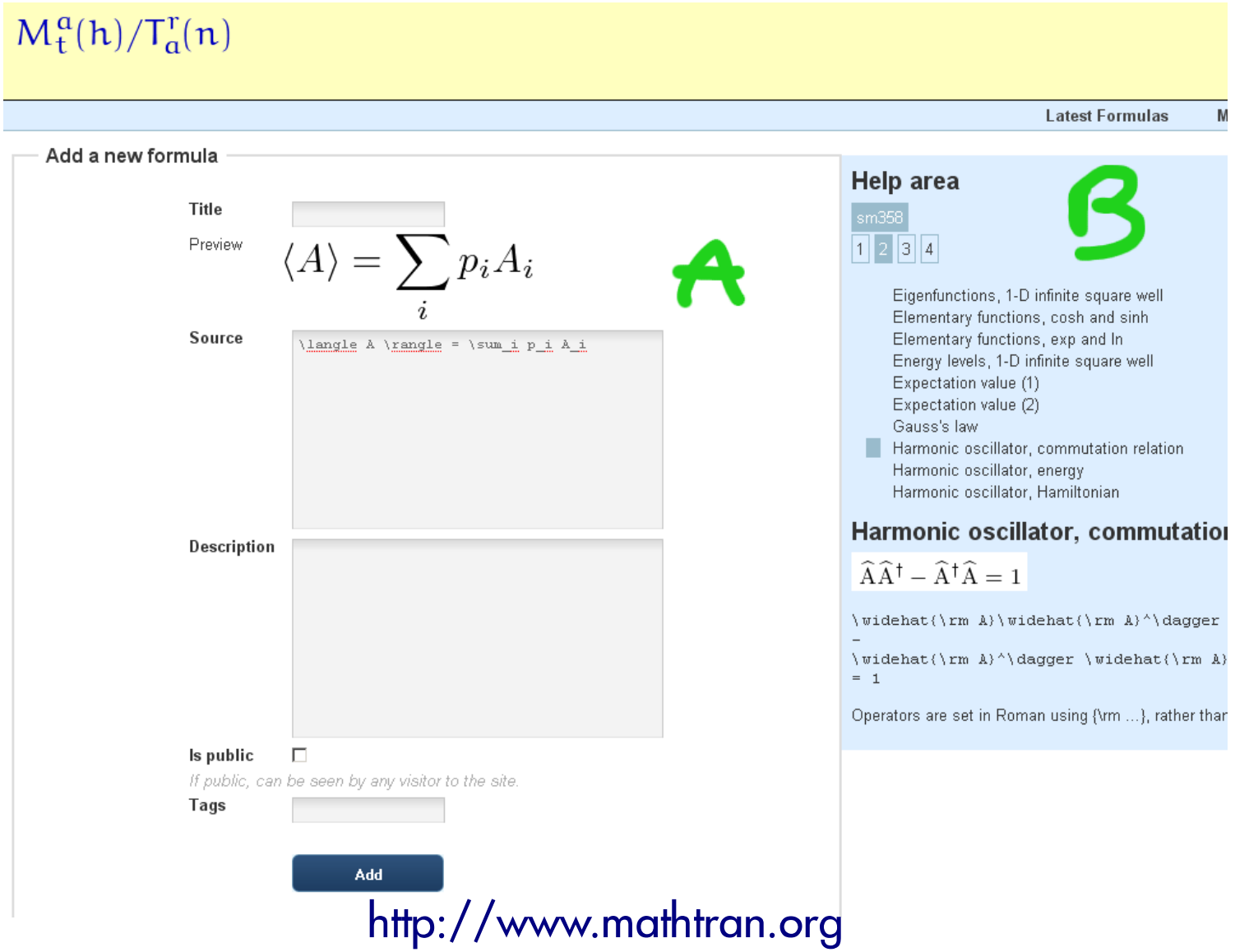
- Point-and-click editing (WYSIWYG).
- TeX/LaTeX/MathML compatible.
- Feature Rich.
- Interoperable with many apps.

## Cons

- Desktop client.
- Non Free (100$ for v6.5).

http://www.dessci.com/en/products/mathtype/

# MathTran




http://www.mathtran.org

# MathTran

## Pros

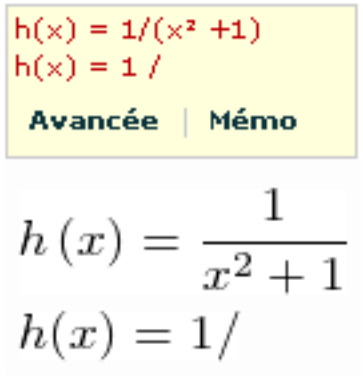
- Uses a variant of TeX.
- Realtime output rendering.
- Web based.
- Free & Open Source.
- FAB (formula autobuild) editing.

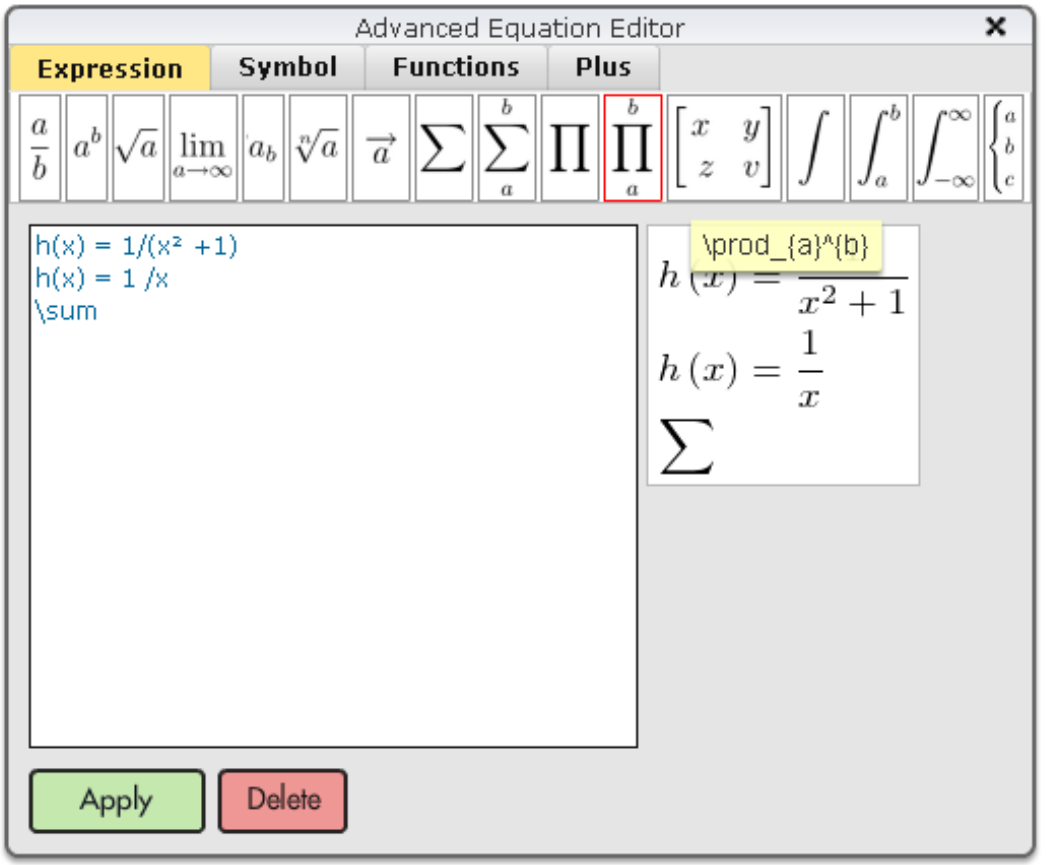
## Cons

- No visual shortcuts to input equations.
- TeX knowledge required.

http://www.mathtran.org

# Edoboard




http://edoboard.com

# Edoboard

## Pros

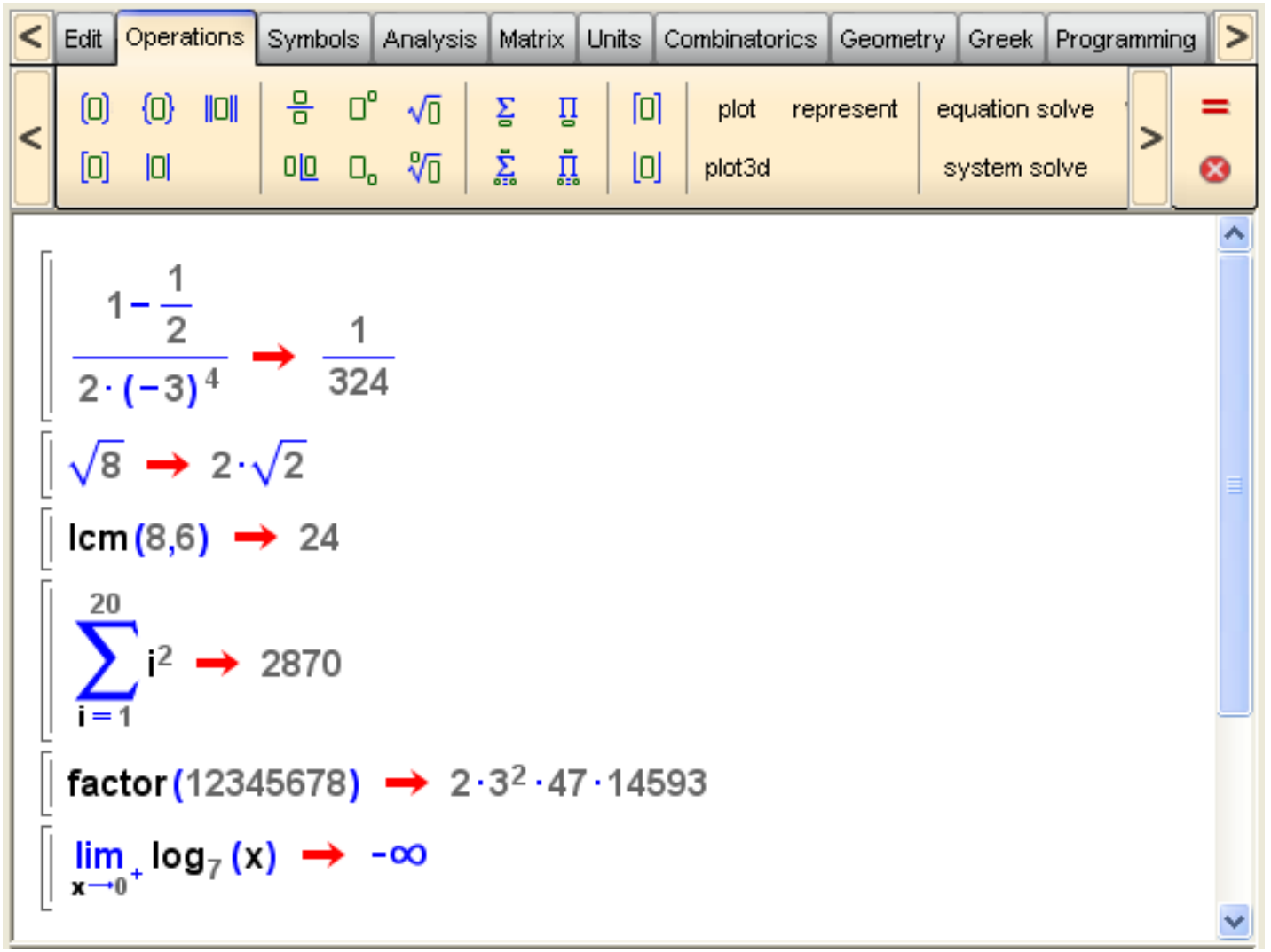
- Uses Mathtran as a Web Service (TeX).
- Fit for simple Maths.
- Live collaboration.
- Hybrid editing WYSIWYG and FAB (formula autobuild).

## Cons

- Flash Based.
  - Slow on Linux.
  - Takes some time to Load.
- Wont be free for ever.

http://edoboard.com

# Wiris




http://www.wiris.com/

# Wiris

## Pros

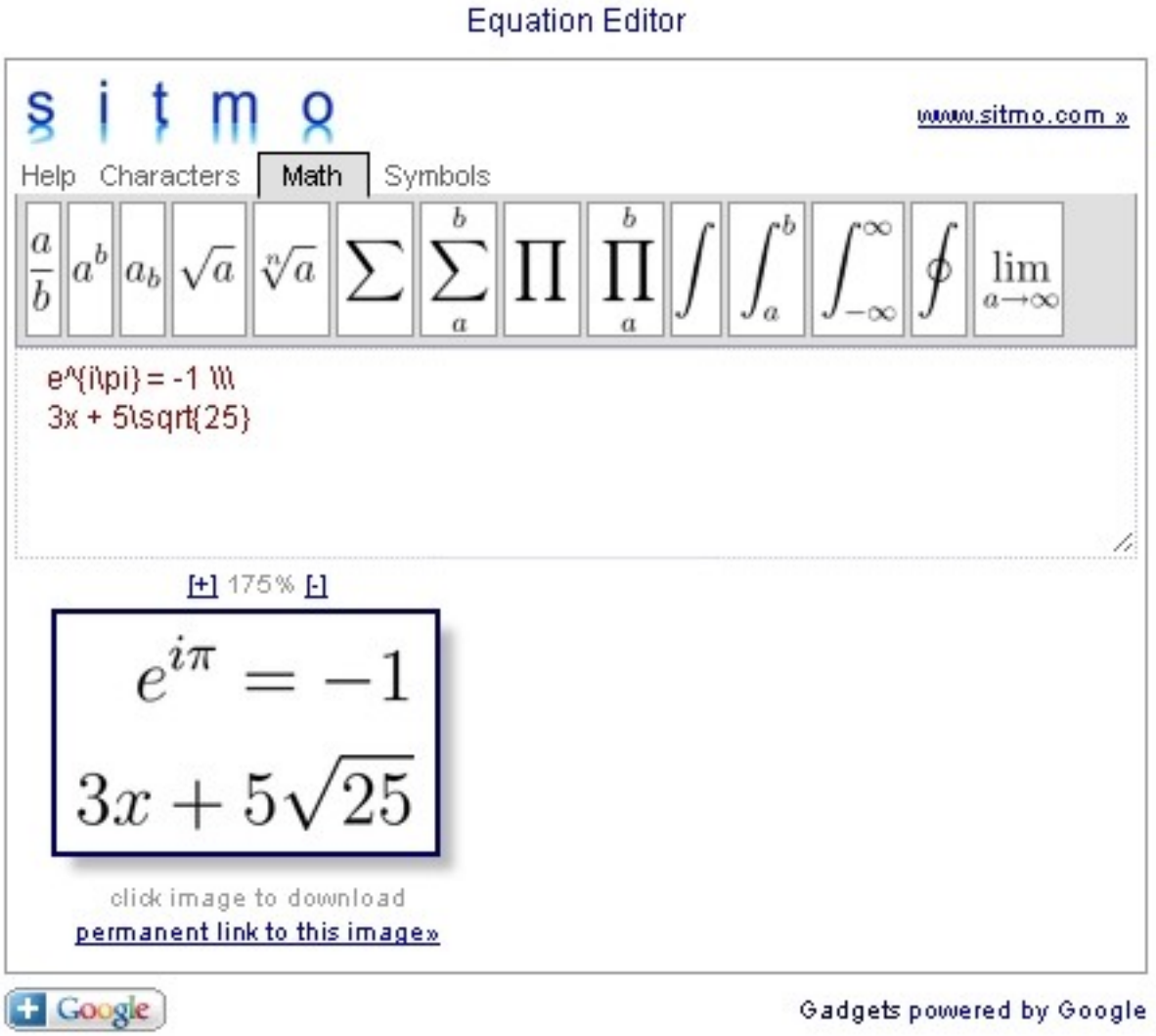
- Web & Desktop Client.
- Supports MathML and OpenMath.
- Hybrid editing.
- Feature Rich: Solver and Grapher.
- Cross-platform.

## Cons

- No LaTeX support yet.
- Non free.
- Java Based.

http://www.wiris.com/

# Sitmo




http://www.sitmo.com/latex/

# Sitmo

## Pros

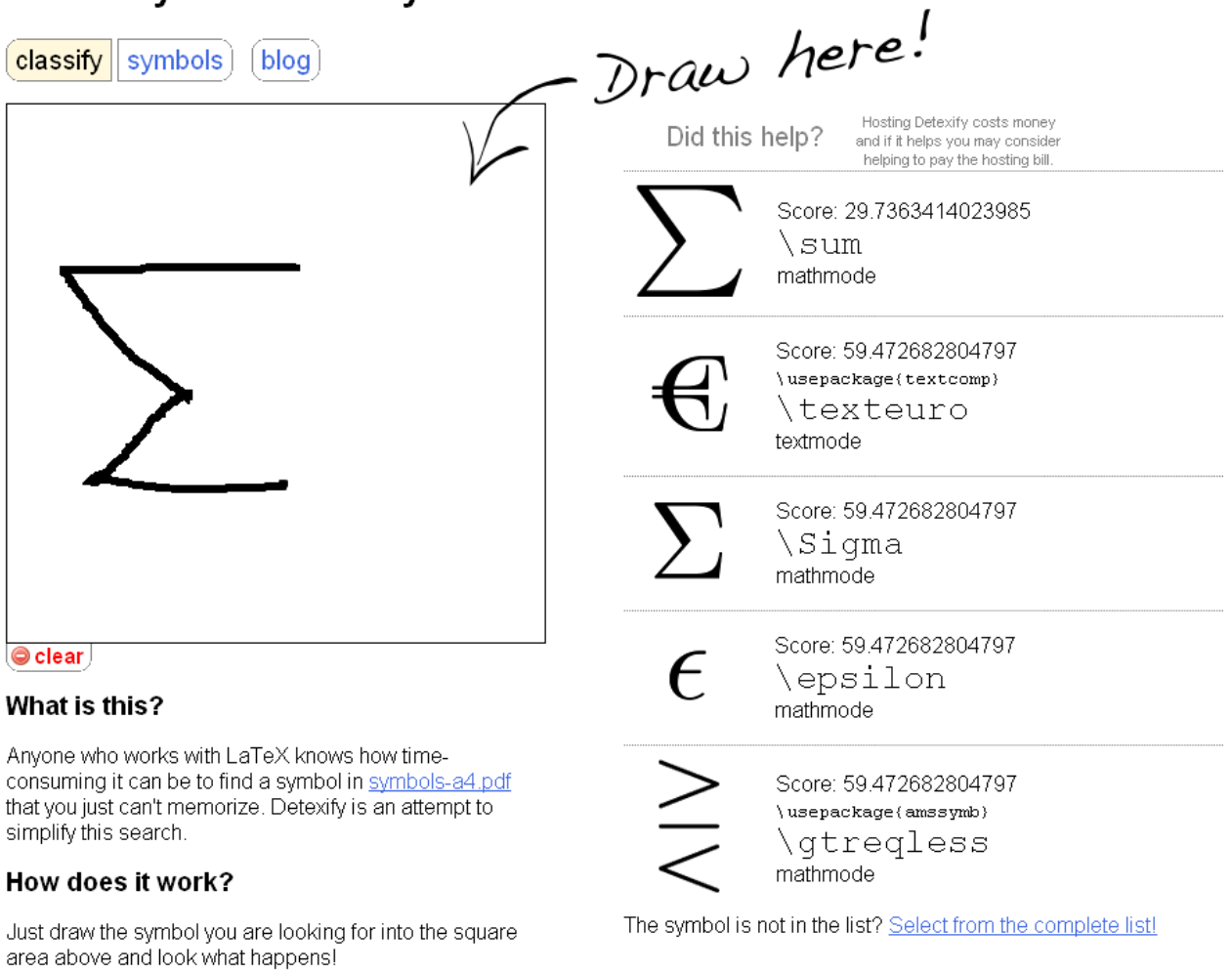
- LaTeX compatible.
- Realtime output rendering.
- Web based (HTML/Js).
- Free.
- Hybrid Editing.

## Cons

- LaTeX knowledge required.

http://www.sitmo.com/latex/

# Detexify




http://detexify.kirelabs.org/classify.html

# Detexify

## Pros

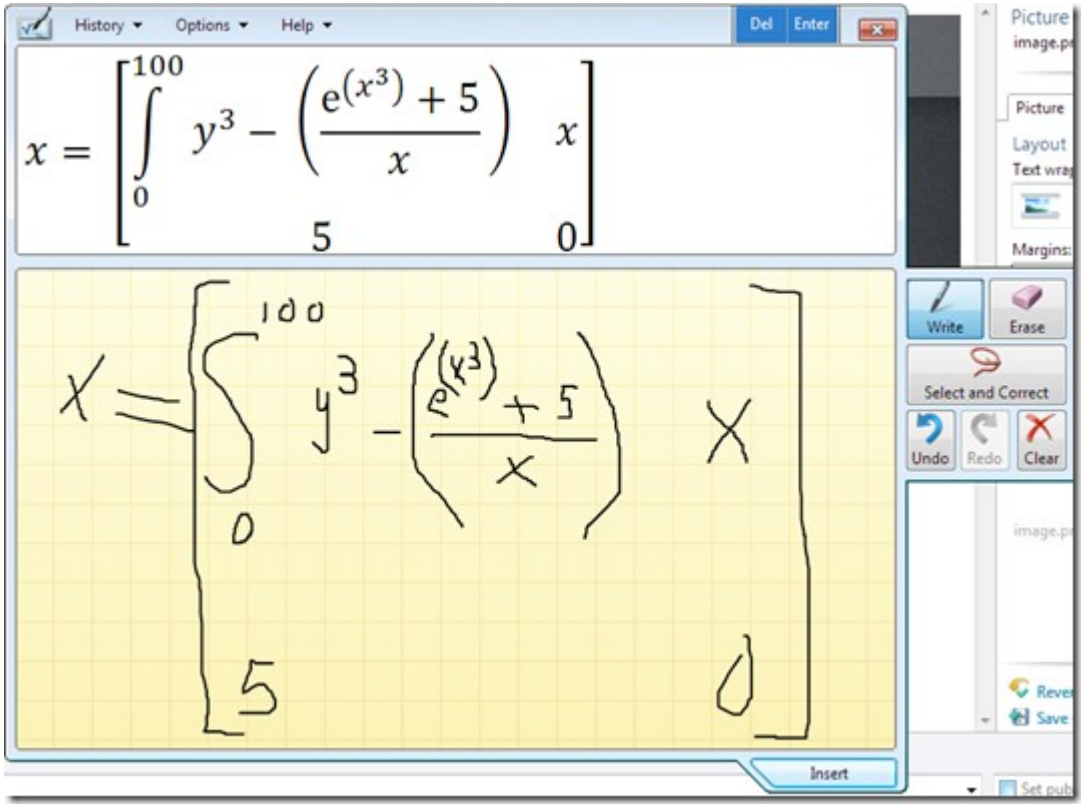
- IPhone and Android Apps.
- Super Simple (Handwriten).
- Free.
- Web based (HTML/Js).

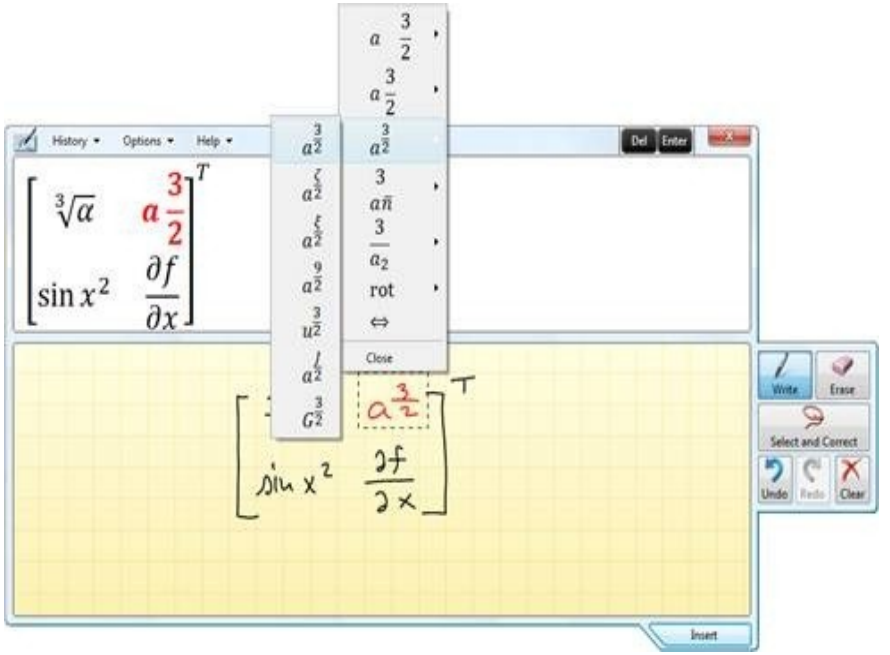
## Cons

- Only works for one character at a time.
- You need a recent browser supporting HTML5.

http://detexify.kirelabs.org/classify.html

# Math Input Panel (Windows 7)




http://bit.ly/3Uf6dT

# Math Input Panel (Windows 7)

## Pros

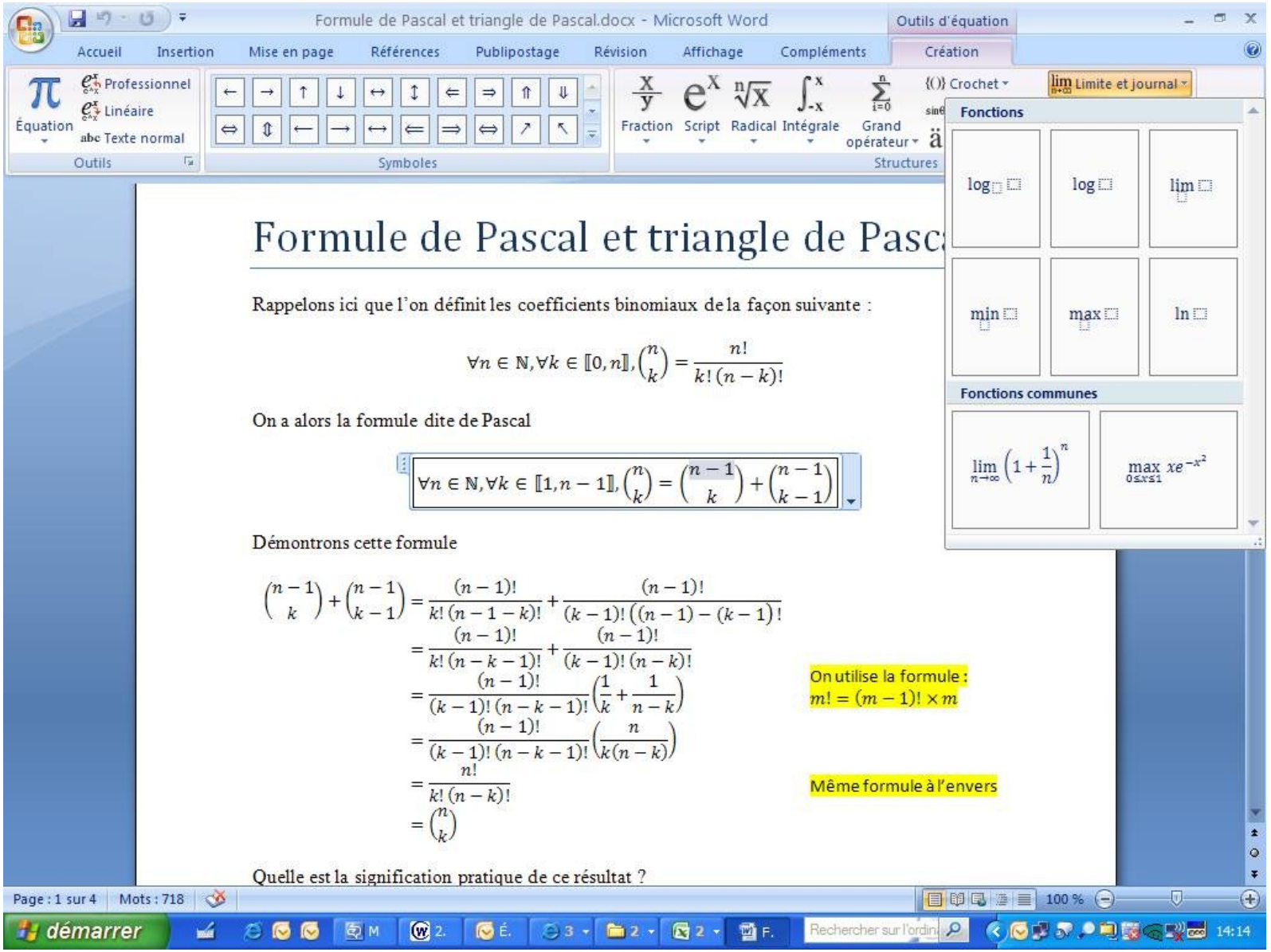
- Can recognise a whole equation.
- Natural handling (Handwriten).
- Export as MathML.

## Cons

- Pen tablet usage is advised.
- Windows 7 only.

http://bit.ly/3Uf6dT

# Word 2007


Formule de Pascal et triangle de Pascal.docx - Microsoft Word
Outils d'équation
Accueil
Insertion
Mise en page
Références
Publipostage
Révision
Affichage
Compléments
Création
Équation
Professionnel
Linéaire
Texte normal
Outils
Symboles
Fraction
Script
Radical
Intégrale
Grand opérateur
Crochet
Limite et journal
Structures
Fonctions
Fonctions communes
Formule de Pascal et triangle de Pasc
Rappelons ici que l'on définit les coefficients binomiaux de la façon suivante :
$\forall n \in \mathbb{N}, \forall k \in [\![0,n]\!], \binom{n}{k} = \frac{n!}{k!\,(n-k)!}$
On a alors la formule dite de Pascal
$\forall n \in \mathbb{N}, \forall k \in [\![1,n-1]\!], \binom{n}{k} = \binom{n-1}{k} + \binom{n-1}{k-1}$
Démontrons cette formule
$\binom{n-1}{k} + \binom{n-1}{k-1} = \frac{(n-1)!}{k!\,(n-1-k)!} + \frac{(n-1)!}{(k-1)!\,((n-1)-(k-1))!}$
$= \frac{(n-1)!}{k!\,(n-k-1)!} + \frac{(n-1)!}{(k-1)!\,(n-k)!}$
$= \frac{(n-1)!}{(k-1)!\,(n-k-1)!}\left(\frac{1}{k} + \frac{1}{n-k}\right)$
$= \frac{(n-1)!}{(k-1)!\,(n-k-1)!}\left(\frac{n}{k(n-k)}\right)$
$= \frac{n!}{k!\,(n-k)!}$
$= \binom{n}{k}$
On utilise la formule : $m! = (m-1)! \times m$
Même formule à l'envers
Quelle est la signification pratique de ce résultat ?
Page : 1 sur 4
Mots : 718
100 %
démarrer
14:14

# Word 2007

## Pros

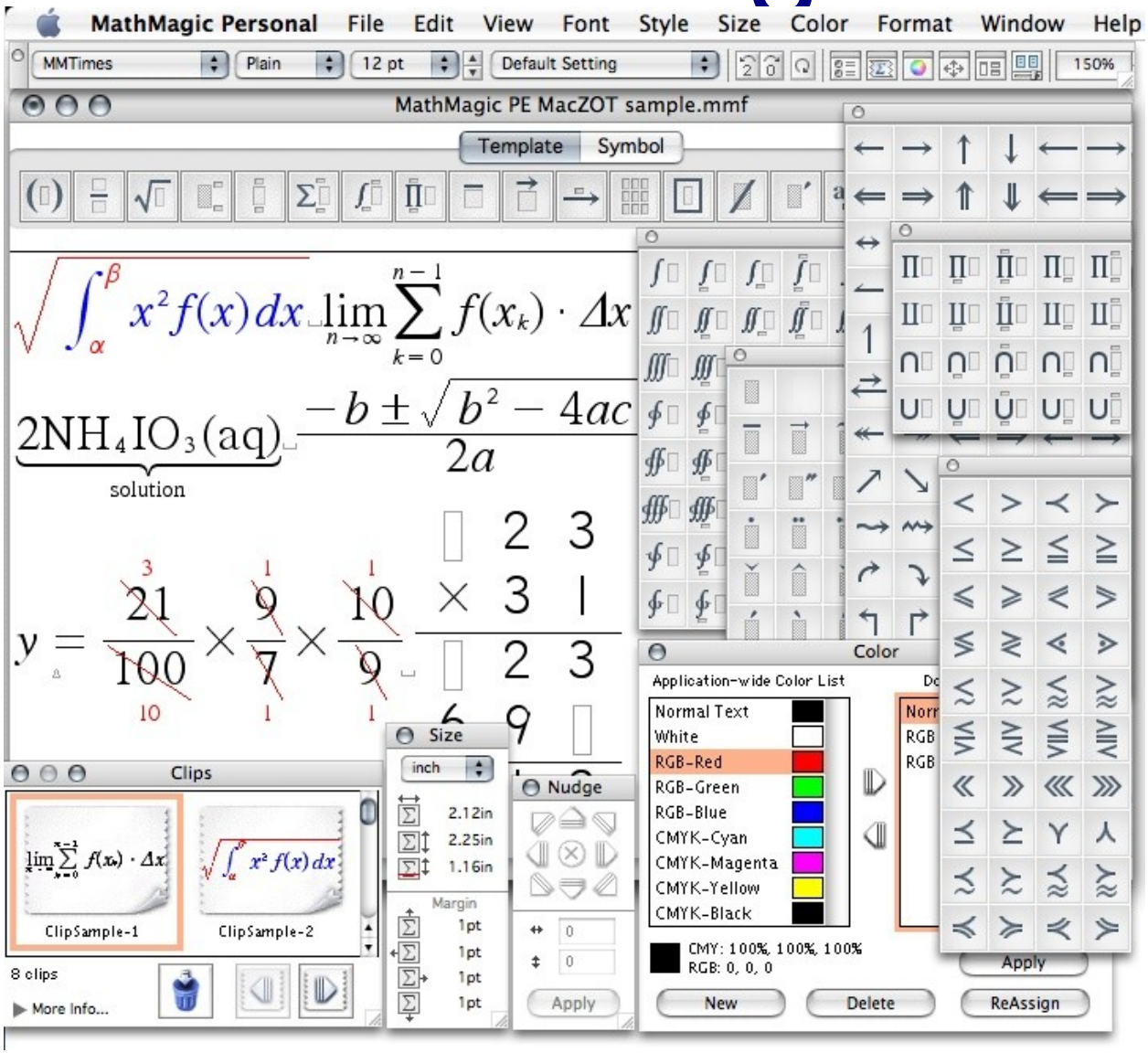
- MathML compatible.
- Point-and-click editing (WYSIWYG).
- Feature Rich.
- Microsoft Office Integration.

## Cons

- Windows only.
- Non Free.
- No official LaTeX support.
- Desktop Client.

Microsoft Office

# Math Magic




http://www.mathmagic.com/

# Math Magic

## Pros

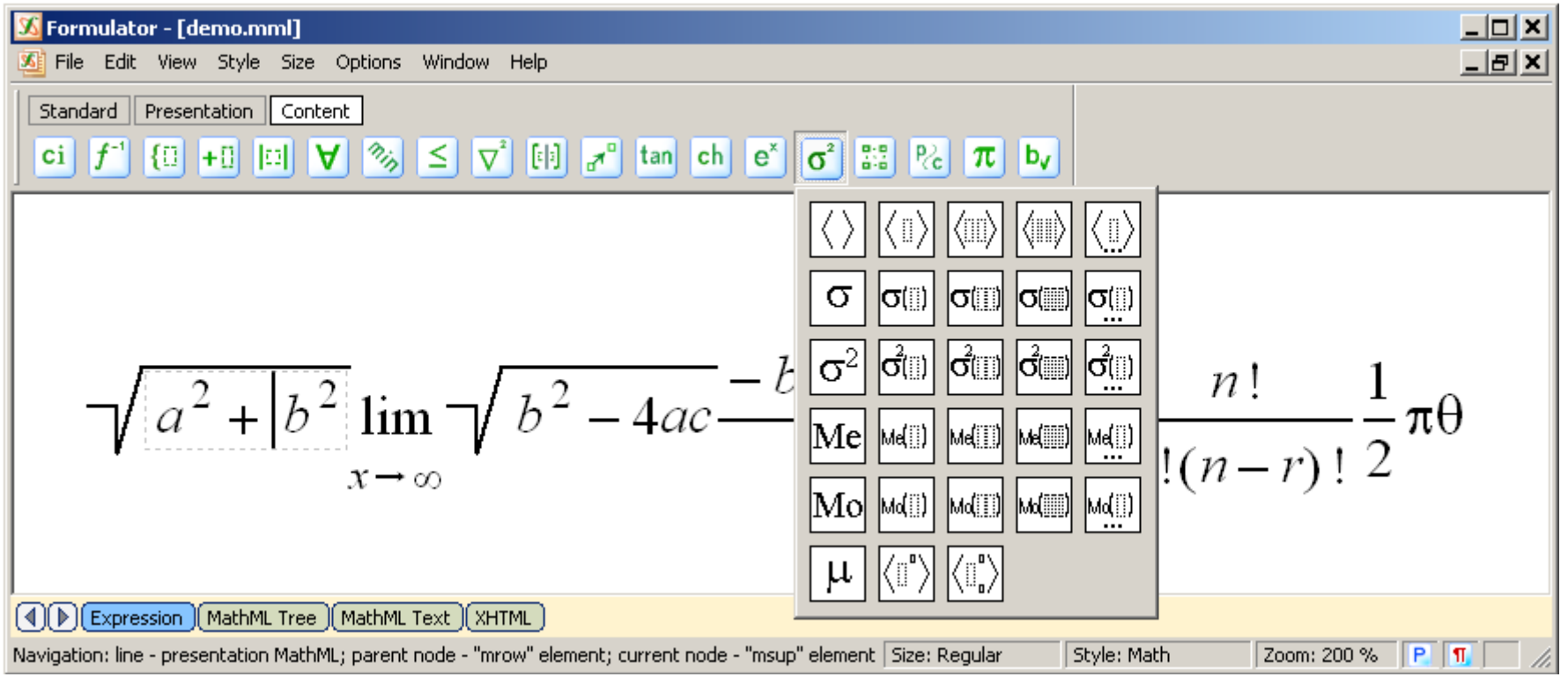
- LaTeX/MathML/MathType compatible, and more.
- Heavily customizable via templates.
- Feature rich and powerful.
- Point-and-click editing.

## Cons

- Desktop client,Win & Mac.
- Non free - Regular version 300£ p.a.

http://www.mathmagic.com/

# Formulator




http://bit.ly/1PeGRA

# Formulator

## Pros

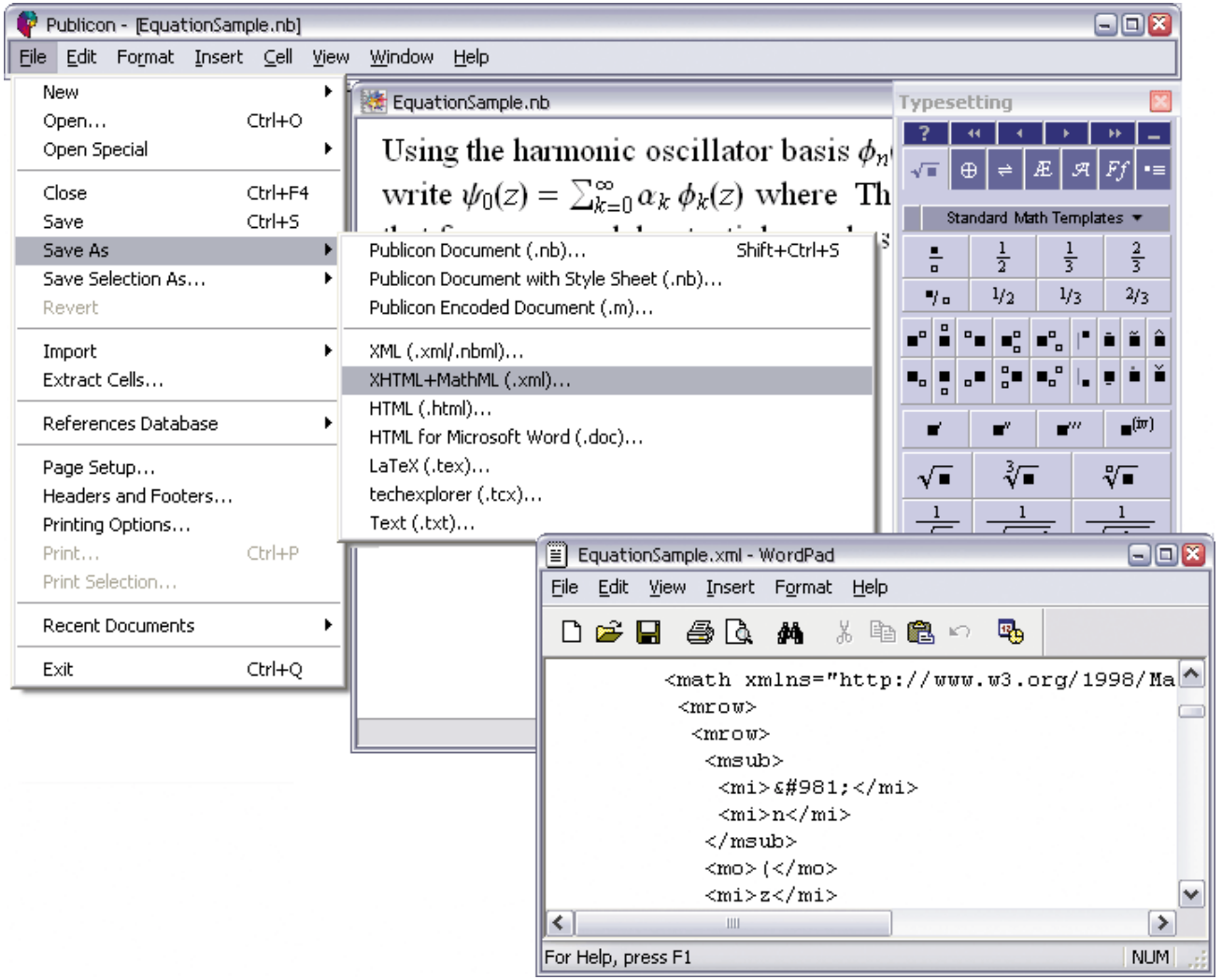
- MathML compatible.
- Free.
- Simple.
- Point-and-click editing

## Cons

- Desktop client.
- Windows only.

http://bit.ly/1PeGRA

# Publicon - Wolfram Research




http://www.wolfram.com/products/publicon/index.html

# Publicon - Wolfram Research

## Pros

- Math and chemistry typesetting.
- *-TeX /MathML plus BioMed XML.
- Highly specialised for Science.
- Point-and-click editing.

## Cons

- Non free 100£ p.a.
- Windows and Mac.
- Desktop client.

http://cnx.org/

# What should i use ?
## For Moodle (LMS)

MathType

Wiris

# What should i use ?

## Web Based Equation Editor

Wiris

Sitmo

Mathtran

# What should i use ?

## Desktop apps with Advance Features

Publicon

MathType

Math Magic

~Word

# What should i use ?

## Live Math Tutoring

Edoboard

# What should i use ?

## HandWriting Recognition

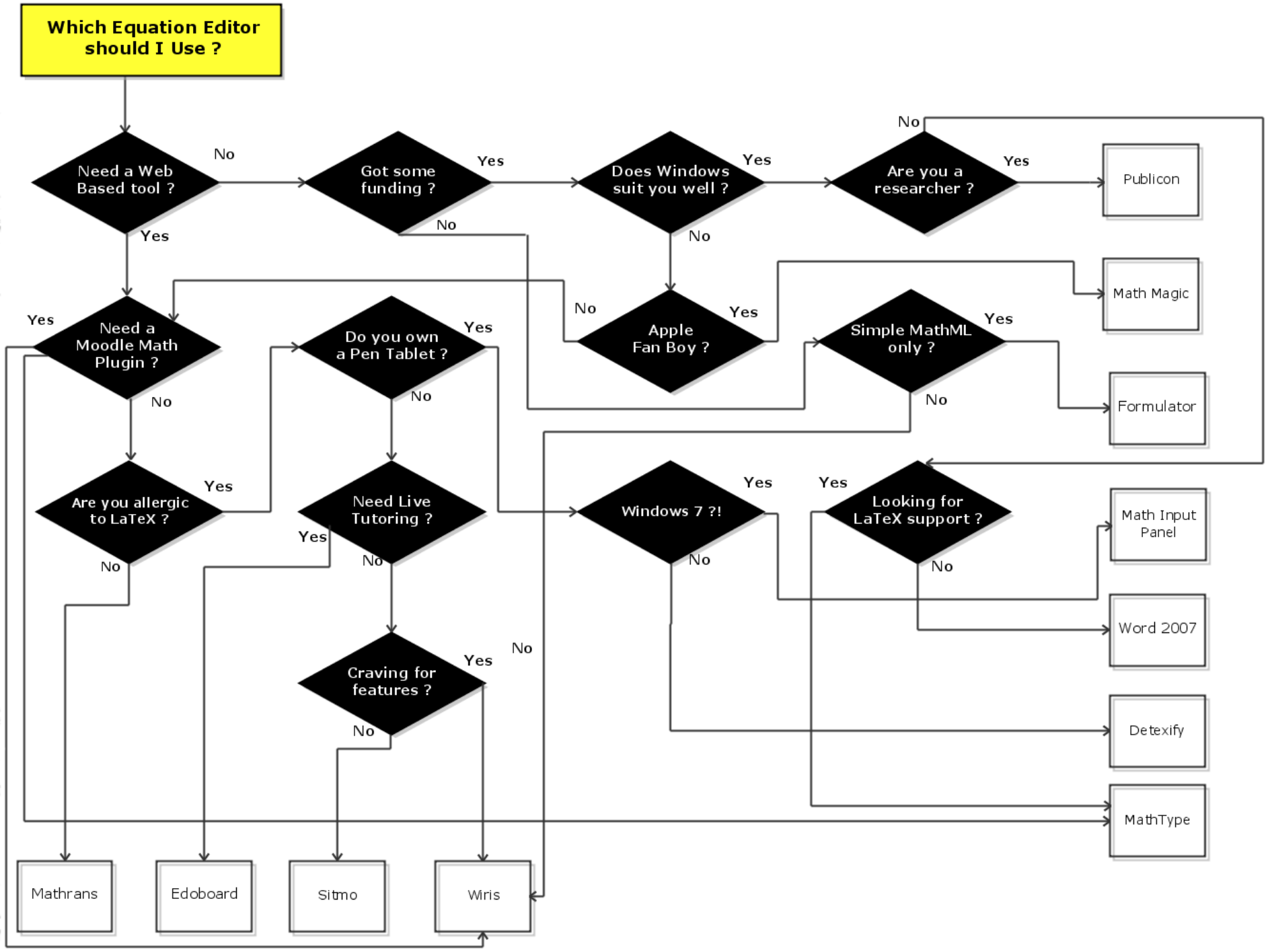
Detexify

Math Input Panel

# What should i use ?

## Free Simple Desktop Equation Editor

Formulator



Mathtrans: http://www.mathtran.org

Formulator: http://bit.ly/1PeGRA

Edoboard: http://www.edoboard.com

Publicon: http://www.wolfram.com/products/publicon/index.html

MathMagic: http://www.mathmagic.com/

# What do you use ?

MathType: http://www.dessci.com/en/products/mathtype/

Math Input Panel: http://bit.ly/3Uf6dT

Word 2007: http://bit.ly/SGqoE

Detexify: http://detexify.kirelabs.org/classify.html

Sitmo: http://www.sitmo.com/latex/

Wiris: http://www.wiris.com