

# Online L<sup>A</sup>T<sub>E</sub>X

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Unfortunately not every host offers LaTeX but there are sites that can help generate the images that can be downloaded.

## A Images

1. [CodeCogs LaTeX Equation Editor](#). This innovative editor has a symbol table for those who are not sure of the LaTeX code as well as allowing the code to be typed directly. It uses Ajax so that the page does not need to be refreshed to see the rendered image. The source code uses LatexRender. See also this post: [CodeCogs Equation Editor](#). [Hamline University Physics Department Latex Equation Editor](#) is based on the same code, with some innovative additions. [Editor Online de Ecuaciones Latex](#) is a Spanish version.
2. [MimeTeX](#) parses a LaTeX maths expression and immediately emits the corresponding image such as this  $c = \sqrt{a^2 + b^2}$
3. [MathTran](#) is a new project by the Open University that intends to “provide translation of mathematical content, from TeX to MathML and vice-versa, and to graphics formats, as a web service”. At the moment only Plain TeX (both text and mathematics) can be converted to an image. [MathTran instant preview](#) is a web-based TeX system, complete with a built-in help. It compiles Plain TeX code in real time. The source is available at [mathtran-javascript](#). [Enso TeX Anywhere](#) makes use of MathTran to convert TeX to images in some Windows programs.
4. [Troy Hendersons LaTeX Previewer](#) makes it clear what is in the preamble when rendering the image and will preview SVG or PNG formats. Other formats such as EPS are available for download. Packages may be added. You can see the log for any errors. [MetaPost Previewer](#) and [Function Grapher](#) allow you to preview and download images and graphs made by [MetaPost](#) and which can then be downloaded in a number of formats.

5. [Roger's Online Equation Editor](#) offers a choice of image formats, background and text colours, resolution, transparency and anti-alias.
6. [Texify](#) uses mimeTeX to generate the image. It can also be used to generate links such as [http://texify.com/\\$E=mc^2\\$](http://texify.com/$E=mc^2$) to the image in text based systems such as email.
7. [mathTeX](#) is as simple to use as mimeTeX but uses LaTeX to generate a higher quality image like this  $c = \sqrt{a^2 + b^2}$

If you have LaTeX installed you may prefer to install mathTeX as a cgi program on your system. See also

[mathTeX Helper](#)

[Embedding math with replacemath.js](#) (the latter has a bookmarklet for inserting mathematical images in webmail) and

[How to Install Latex On Blogger/Blogspot](#).

8. [HotEqn](#) is a AWT-based Java applet to view and display mathematical equations. Subtitled The IMGless Equation Viewer Applet it cannot be used to create images.
9. [jsTeXrender](#) is a small JavaScript program which will convert LaTeX code inside pre tags to images. This makes it easy to embed mathematics in any HTML page or in PHP programs such as phpBB or WordPress. It is based on [CodeCogs](#) and [LatexRender](#).
10. [mathurl](#) is a mathematical version of [TinyURL.com](#). It allows you to reference LaTeXed mathematical expressions using a short url. For example, <http://mathurl.com/?5v4pjw> will show

$$\int_{-\infty}^{\infty} e^{-x^2} dx = \sqrt{\pi}$$

which you can then edit. More details on [mathurl's help page](#)

11. [LaTeX for Blogger](#) is a JavaScript add-on for Firefox with Greasemonkey that enables the use of mimeTeX in Blogger posts.
12. [MathBin.net](#) allows you to quickly post mathematics or physics problems in a forum for others to view and reply to and discuss. The posts are long-lived but not permanent.
13. [LaTeX word count](#) provides a word count for complete LaTeX documents or for code fragments, with a number of options for parts of the document and whether or not to include mathematics.
14. [Equations 1.2.1](#) is an add-on for the email program Thunderbird, which converts LaTeX mathematics into graphics via a Convert button.

15. [Quick LaTeX](#) is a Google gadget that can be added to the iGoogle home-page. It uses mimeTeX to produce the image but it would be quite simple to change the code to use mathTeX or CodeCogs.
16. [TeX2PNG Online](#) converts LaTeX code into PNG, GIF, EPS, or JPEG.
17. [QuickLaTeX.com](#) is a free service which converts LaTeX code to a URL of an image along with meaningful error messages. More detail, support plus a WordPress plugin can be found at the author's [blog](#).
18. [jsMath](#) is entitled **A Method of Including Mathematics in Web Pages** and uses native fonts, which can be resized, rather than using images. It works best (but not exclusively) with TeX fonts. [WordPress and jsMath](#) has instructions for using jsMath in WordPress blogs. [Math support in Sphinx](#) can use both image rendering and jsMath for its document generator.  
(thanks to *Andreas Maier* for the links).
19. [MathJax](#) is an open source, Ajax-based math display solution which can display MathML or TeX code or a mix of both in the same page. It allows for MathML to be viewed in browsers such as Internet Explorer which don't have native support and normally require a plug-in. It works with both HTML and XHTML pages. Previews can be found [here](#).
20. [Google Chart Tools](#) will also display LaTeX code. For example,

$$\int_{-\infty}^{\infty} e^{-x^2} dx = \sqrt{\pi}$$

is given by the URL

[http://chart.apis.google.com/chart?cht=tx&chl=\displaystyle\int\\_{-\infty}^{\infty}e^{-x^2}\;dx=\sqrt{\pi}](http://chart.apis.google.com/chart?cht=tx&chl=\displaystyle\int_{-\infty}^{\infty}e^{-x^2}\;dx=\sqrt{\pi})

Various image properties can also be set.

21. [Latex in Word](#) provides macros for use in Microsoft Word which renders LaTeX code into images inserted into a document. The images can be rendered on the author's remote server or on a local server.
22. [MathQuill](#) is a script which allows maths to be added to a web page and will convert LaTeX code typed into a textbox.
23. [iTeX2Img](#) will convert LaTeX code to a variety of image formats which allows for a choice of font sizes and colours.
24. [Interactive LaTeX Editor](#) renders in near real-time using a choice of servers, CodeCogs, MathJax and Google Chart API. It can save the results between visits.

## B Complete Documents

Complete LaTeX documents can also be compiled online. Here are a few sites I have come across:

1. [LaTeX-Online-Compiler](#) will compile LaTeX documents to postscript, PDF or DVI formats and will generate references. There's a [German language version](#) of the page.
2. [ScienceSoft.at](#) can compile a document to various image formats as well as PDF. The resolution can be adjusted and there are a number of templates. There's a Flash applet version. Again there's a [German language version](#).
3. [TeX on Web](#) converts LaTeX and plain TeX documents to Postscript and PDF. It has Czech language support. The instructions are in Czech but the site is still easy to use by non-Czech speakers.
4. [MonkeyTeX](#) allows you to upload, store and convert LaTeX documents to PDF in your own account. This makes it possible to collaborate on documents and you can opt to make your PDF documents public and searchable. You can also upload style, bibtex and other files which you can use when compiling LaTeX documents.
5. [LaTeX Lab](#) is an online version giving a full text editor and compiler complete with menus and toolbars.

“On the Live environment an installation of MikTeX provides the LaTeX processes and packages. A simple C# class library provides an API for interfacing with the MikTeX tools (for tasks such as TeX-to-PDF conversion) as well as the LaTeXLab application database which stores users and corresponding file systems. The C# class library is in turn exposed to the Web as an ASP.NET web service which is consumed via AJAX from the LaTeXLab application.”

The project is very much under development and the project site is at [Google Code](#).

6. [ScribTeX](#) is a free online collaborative LaTeX editor.

“ScribTeX allows you to work on LaTeX documents from anywhere with internet access and share them with your friends and colleagues easily. Some of the many features of ScribTeX include:

- Create and edit LaTeX documents and automatically render them to PDFs;
- Full revision control of all your documents;
- The choice to keep your documents private, allow people of your choosing to view or edit them, or publish them to world. A fine grained permissions system allows for flexible access control.”

7. [Verbosus](#) is an online LaTeX editor which can

Create and manage your latex projects and generate .pdf files online, directly in your browser, with syntax highlighting.

Registration is required and the service is free for ‘small projects’ using a maximum of 4 resources, though I am ‘uncertain’ as to the definition of *resources*.

VerbTeX allows you to use Verbosus from an Android device.

8. [Tex Touch](#) is an app for the iPad. It will edit tex documents and then compile them online using the [TeX Cloud online compiling service](#).
9. [iLatex2Rtf/i2rtf](#) attempts to convert tex documents to RTF. It will also accept a zip file containing tex, bbl, aux, images, etc. The site makes it clear that it only provides a ‘good starting editing point’.
10. [ShareLaTeX](#) started in January 2012 and is designed for users to collaborate on documents with changes viewed in real time. It features a customisable editor, simplified error messages, one-click compilation and export of an entire project. Its in beta at the moment and the site plans to offer a “fully featured free account”.
11. [blue.publications.li](#) is a collaborative LaTeX editor which allows papers to be shared by using a URL. Changes are received by co-authors within 2 seconds. Compiling using pdflatex or latex is supported.
12. [writeLaTeX](#) is a free collaborative editor which doesnt require registration. It has a real-time pdf preview, figures, classes and styles can be uploaded and all the document files can be exported in zip format.

## C Other sites

1. [LaTeX word count](#) uses a Perl script to count text words in a LaTeX document and has some options to control the count. I’m not sure how useful a word count is for a typical LaTeX document, but this is an easy way to do so.
2. [WordPress.com](#) offers free hosted blogs with LaTeX facilities similar to LatexRender. See [LaTeX — Support — WordPress.com](#) for details.
3. [LaTeX Symbols Converter](#) will convert accented characters and HTML and XML characters into LaTeX code. For example,

```
Schrödinger & his cat  
Schr&ouml;dinger &#38; his cat
```

will both be converted to

```
Schr\{"o}dinger \& his cat.
```

4. [Detexify](#) tries to work out the LaTeX code for any symbol that is mouse-drawn in a box. Thus drawing  $\Sigma$  should give a list of symbols including `\sum`, `\Sigma` and `\Upsilon`. The mode or possible packages required are also listed.
5. [LaTeX table editor](#) and [BibTeX editor](#) generate the LaTeX code in real-time for tables and BibTeX.
6. [Pandoc](#) is a converter between many markup formats including LaTeX. [Try Pandoc!](#) allows you to convert online small sections of text between these formats.
7. [Uniquation](#) will search the net for simple TeX expressions.
8. [WebEquation](#) recognises handwritten mathematics and translates it into LaTeX and mathML, showing the output. Best used with a tablet or digital stylus and requires a browser that supports HTML5.

Please let me know about similar sites that are worth including here; comments can be posted at [Online LaTeX](#).

Steve Mayer