

LaTeX

Pronounced Lay Tech

Show brief example

$$y=mx+b$$

Creates an image.

Use notepad, wordpad or TextEdit (MAC) to save expressions (you can't copy and paste text from the image, so if you want to build upon a previous expression, you will need to retype it or get it from a saved copy).

Commands and Symbols

() [] {} – Parenthesis, Brackets and Braces

\ (backslash) precedes commands or symbols

LaTeX special characters # \$ % & ~ _ ^ \ { }

escaping special characters with \

use \backslash for \ not \\

whitespace characters are ignored use a backspace before the space for it to show in the output.

newline \\

Examples:

$$y = x^2 + 5$$

$$y=x^2+5$$

$$y = x^{10}$$

$$y=x^{10}$$

VS

$$y = x^{10}$$

$$y=x^{10}$$
 use braces to apply more than one character to a command

$$y = \sqrt{100}$$

$$y=\sqrt{100}$$

VS

$$Y = \sqrt{100}$$

$$Y=\sqrt{100}$$

$$y = \sqrt[3]{27}$$

$$y=\sqrt[3]{27}$$
 use brackets if you want a root other than the square root

$$Y = \frac{1}{2}$$

$$y=\frac{1}{2}$$

$$y = \frac{10}{20}$$

$$y=\frac{10}{20}$$

$$y = 10 \div 20$$

$$y=10\div 20$$

$$y = \frac{x+1}{x^2}$$

$$y=\frac{x+1}{x^2}$$

Multiple lines `\\` and spaces `\`

$$y = \frac{x+1}{x^2} \text{ for } x = 2$$

$$y = \frac{2+1}{2^2}$$

$$y = \frac{3}{4}$$

$$\backslash y = \frac{x+1}{x^2} \backslash \backslash \text{ for } x=2 \backslash \backslash \backslash$$

$$y = \frac{2+1}{2^2} \backslash \backslash \backslash$$

$$y = \frac{3}{4}$$

$$y = x_1 + x_2$$

$$y=x_1+x_2$$

$$y = x_1^3 + x_2$$

$$y=x_1^3+x_2$$

$$c = \pi r^2$$

$$c = \pi r^2$$

$$Y = \left(\frac{x^2}{y+3} \right)^3 \quad Y = \left(\frac{x^2}{y+3} \right)^3$$

$$Y = \left\{ \frac{x^2}{y+3} \right\}^3 \quad Y = \left\{ \frac{x^2}{y+3} \right\}^3$$

Wolfram | Alpha with LaTeX equation

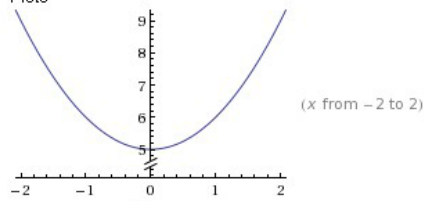
Input

$$y = x^2 + 5$$

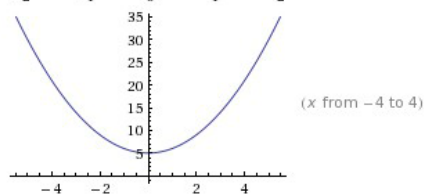
Geometric figure

parabola

Plots



$$y = x^2 + 5$$



Alternate form

$$-x^2 + y - 5 = 0$$

References

Andrew Roberts – Getting to Grips With LaTeX: Mathematics Part 1

http://www.andy-roberts.net/writing/latex/mathematics_1

LaTeX Video

<http://myfreetutor.org/video/latex>

This Document – Latex Video Notes – See link on LaTeX Video page

LaTeX “Cheat Sheet” – See link on LaTeX Video Page

Andrew Roberts – LaTeX Mathematical Symbols

<http://www.andy-roberts.net/res/writing/latex/symbols.pdf>

LaTeX Project Home Page

<http://latex-project.org/>