

More L^AT_EX

MU

2nd May 2022

1 Overview

This document shows you what is possible in L^AT_EX, including some extra stuff that wasn't explicitly gone through in the workshop slides¹.

- Footnotes
- Referring to equations and figures
- Underbraces and overbraces
- URLs and links

2 Pythagoras

Pythagoras was an ancient Ionian Greek philosopher who lived around 570 BC. He is often credited with the Pythagorean theorem, listed below in equation (1), although there is evidence that the theorem was known about in ancient Egypt before Pythagoras.

$$\underbrace{a^2 + b^2}_{\text{sides}} = \overbrace{c^2}^{\text{hypotenuse}} \quad (1)$$

Also, he may have had a cult².

2.1 Proof of the Pythagorean theorem

We can prove the Pythagorean theorem. Looking at figure 1 we can see the setup, and figure 2 has the working.

¹Like this! This is a footnote!

²Check out this url (<https://en.wikipedia.org/wiki/Pythagoreanism>). Or check out [this interactive link](#) (note the link by default has no style)

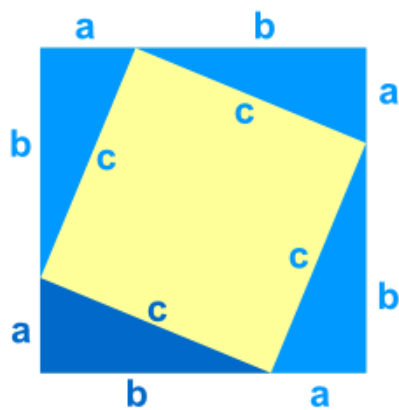


Figure 1: Geometry setup

$$\begin{aligned}
 &\text{Inner square area} \rightarrow c^2 \\
 &\text{Triangle area} \rightarrow \frac{ab}{2} \\
 &\text{Area of larger square} \rightarrow (a+b)(a+b) = c^2 + 2ab \leftarrow \text{Sum of shapes} \\
 &\quad a^2 + b^2 + 2ab = c^2 + 2ab \\
 &\quad a^2 + b^2 = c^2
 \end{aligned}$$

Figure 2: Proof

How to cite things

Ok, so we need to cite some things. There are many texts that talk about Pythagoras[1, 2, 3].

- Fauvel et al. talks about...
- Huffman talks about...in
- Joost-Gaugier talks about...

References

- [1] John Fauvel, Raymond Flood, and Robin J Wilson. *Music and mathematics: From Pythagoras to fractals*. Oxford University Press on Demand, 2006.
- [2] Carl Huffman. Pythagoras. In Edward N. Zalta, editor, *The Stanford Encyclopedia of Philosophy*. Metaphysics Research Lab, Stanford University, Winter 2018 edition, 2018.
- [3] Christiane L Joost-Gaugier. Pythagoras and renaissance europe: Finding heaven. 2009.