MATHS RESEARCH PAPER

A.N. AUTHOR

ABSTRACT. Some deep results are proved here...

1. INTRODUCTION

In this paper we prove some important theorems.

2. GAUSS'S WORK

In [1] Gauss proved the following very important result.

Theorem 2.1. [1] *Some very profound result.*

3. RESULTS OF HILBERT

In [2] Hilbert considered these questions from a more abstract point of view. He proved the following result.

Theorem 3.1. [2] *Some even more profound result.*

In Section 2 a special case of Theorem 3.1 was proved. We can prove an even more general result.

Theorem 3.2. *An extremely profound result.*

Proof. As any fool can plainly see, it's true! □

4. LYX

LyX (together with MikTeX) can be downloaded from www.lyx.org. After you install LyX, the first thing you need to do is to click Help and read Tutorial. You will not be able to use LyX without that. Some hints:

- Press Ctrl-R to make and view pdf.
- LyX is based on the principle that "What You See Is What You *Mean*." You type what you mean, and LyX will take care of typesetting it for you, so that the output looks nice. A Return grammatically separates paragraphs, and a Space grammatically separates words.
- The Environment choice box is located on the left end of the toolbar (the choice box below "File Edit View"). It indicates in which environment you are currently writing. "Standard" is the default environment for text. Use "Theorem" to write statement of a theorem, "Proof" for proof, etc.

- Use Insert ▷ Label to label your theorems and Insert ▷ Cross Reference to insert a reference to a particular theorem. The theorems, lemmas, definitions, etc will be numbered automatically. Use Insert ▷ Citation to refer to an item in the Bibliography. Use Ctrl-M to enter Maths mode and Space (or Esc) to leave the formula. Use the arrow keys to navigate inside the formula. Use _ to enter indices (subscripts) and ^ for superscripts. You can also use LaTeX commands in Maths mode (e.g. \sqrt, \sin, \cup, etc).
- Use Ctrl-L to enter LaTeX code directly in the text if necessary (it will appear in a red box).

Example of a simple math formula: $a^2 + b^3 = \sin x + \sqrt{\alpha}$; and with Maths Macros defined above: $F = \varinjlim F_\alpha$; $K = \operatorname{Ker} \varphi$; $\int_a^b \sin x^2 dx$.

Displayed math formula:

$$\sum_{n=0}^{\infty} \Gamma_n x^n \geq \int_a^b \left(\frac{\gamma \cdot \omega(y)}{\lim_{x \to 0} f(x)} \right) dy$$

and a numbered one:

$$a^2 + b^2 = c^2 \tag{4.1}$$

Use Insert-> Cross Reference to insert a reference to it. Equation (4.1) is widely known.

References

[1] Gauss, C.F., "Disquisitiones Arithmeticae", Leipzig, 1801.
[2] Hilbert, D., *Über ternäre definite Formen*, Acta Math., **17** (1893), 169–197.

DEPARTMENT OF MATHEMATICS, UNIVERSITY OF LEICESTER, LEICESTER, LE1 7RH, UK
E-mail address: A.N.Author@le.ac.uk