FULL TITLE GOES HERE

FIRST AUTHOR AND SECOND AUTHOR

Abstract. The abstract goes here.

1. Introduction

Here is some stuff in the introduction. It will lay out all the other things.

2. Why Math is Awesome

In this section, we will explain why math is awesome. First, how about a system of equations in display-style:

$$\partial_t u + (u \cdot \nabla)u + \nabla p = \nu \triangle u + f, \tag{2.1a}$$

$$\nabla \cdot u = 0, \tag{2.1b}$$

$$u(0) = u_0.$$

2.1. **Why math is fun.**

Here is a subsection. We can reference the previous system of equations (2.1), or specific parts of it (2.1a) or (2.1b).

This is a citation of a paper [1] and a book [2], which will show up in the bibliography. Remember that an easy way to get formatted references is to go to http://www.ams.org/mathscinet from a university computer, look up an article, click "Select Alternative Format", and select "BibTeX." Then just copy the reference into your ∗.bib file.

2.2. **Why math is cool.**

Here is another subsection.

3. Some tips on LaTeX

In Section 2, you saw how to make multi-line equations. Single-line equations can be done the same way, but there is also simpler way:

$$\int_\Omega df = \oint_{\partial\Omega} f(x)\,dx$$

(1) You can easily make lists using *enumerate*.
(2) The numbering is done automatically.
  (a) You can even make lists within lists.
  (b) I heard you like lists, so I put a list in your list.

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Numerical lists are handy, but sometimes, you wanted a bulleted list:

- ♠ Or you can make your own symbols using *itemize*.
- ⊗ Even unusual symbols.
- The default symbol is a standard bullet.

There are many way to make matrices. Notice the use of the left and right operators. They will stretch to any size you like.

$$\left[\begin{array}{cc|c} 3 & 1 & 4 \\ 1 & 5 & 9 \\ \hline 2 & 6 & \text{See! Easy.} \end{array}\right]$$

You can also make "piecewise" defined functions:

$$\Phi(x) := \begin{cases} \sum_{n=0}^{\infty} \frac{x^{-2n}}{(2n+1)!} & \text{if } x \in \mathbb{R} \setminus \{0\}, \\ 0 & \text{otherwise.} \end{cases}$$

There are a few ways to cancel things: $a \neq b$, $a \notin A$, $\cancel{(x^2+1)}y = \cancel{(x^2+1)}z$ (you need the *cancel* package for that last one). You can write fractions like this: $\frac{z+i}{z-i}$. If you want to make them look like display text, try $\dfrac{z+i}{z-i}$. More generally, try *display style*: $\lim\limits_{n\to\infty} a_n \neq b$. It's enough to make L'Hôspital, Hölder, or Poincaré drool (note how LaTeXcan make accents on the names).

LaTeXhas many built-in symbols. Most of them can be found in your TeX editor's symbol list. For standard calculus functions, LaTeXhas built-in symbols, which you should use. For example,

$$\sin(x) \text{ and } \log(x) \qquad \text{look better than} \qquad sin(x) \text{ and } log(x).$$

There are many resources online as well. Just type "latex" into Google followed by your query.

$$|[\langle\{\left(\text{\_\_\_\_\_/Happy TeXing!\textbackslash\_\_\_\_\_}\right)\}]|$$

References

1. J. T. Beale, T. Kato, and A. J. Majda, *Remarks on the breakdown of smooth solutions for the 3-D Euler equations*, Comm. Math. Phys. **94** (1984), no. 1, 61–66. MR 763762 (85j:35154)
2. S. Chandrasekhar, *Hydrodynamic and Hydromagnetic Stability*, The International Series of Monographs on Physics, Clarendon Press, Oxford, 1961. MR 0128226 (23 #B1270)

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