

SAMPLE DOCUMENT

ADEN CHEN

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Check out the [github repo](#).

1. THEOREM ENVIRONMENTS

Definition 1.1

A *definition* is a definition, by definition.

Lemma 1.2

Cool lemma.

Theorem 1.3

Cool theorem.

Corollary 1.4

Cool corollary.

Remark 1.5. A quite remarkable remark.

Example 1.6. Nice example.

Problem 1.7. Cool problem.

Proof. Nice proof. □

- Numbering can be turned off by using the corresponding `*` versions of the environments (e.g. `theorem*` instead of `theorem`).
- Use `\usepackage[nocolor]{adenc}` to produce only black and white theorem environments; use `\usepackage[plain]{adenc}` to use the default theorem environments: `definition`, `plain`, and `remark`.

2. FEATURES

2.1. General math symbols.

- A vocab command for styling new vocabulary (in, for example, definitions): *the vocab command* (`\vocab{the vocab command}`).
- A contradiction symbol: \nexists (`\contradiction`).
- Short cuts for `\mathbb` (`\XX` for `\mathbb{X}`), `\mathcal` (`\cX` for `\mathcal{X}`), and `\mathscr` (`\sX` for `\mathscr{X}`). E.g. \mathbb{R} (`\RR`), \mathcal{T} (`\cT`), \mathscr{K} (`\sK`). (Note that these shortcuts are not available for all letters.)
- A better looking mod: $x \equiv y \pmod{3}$ (`x \equiv y \mod 3`).

2.2. Math symbols by field.

Set Theory.

- A better looking complement symbol: A^c (`A^\complement`).
- A better empty set symbol: \emptyset (`\emptyset`).
- A cardinality command: $|A|$ (`\card{A}`).
- A interior operator: $\text{Int } A$ (`\Int A`).

Probability.

- Operators: $\mathbb{P} \mathbb{E} \text{var} \text{Var} \text{Cov}$ (`\Prob \E \var \Var \Cov`).

Linear Algebra.

- Operators: $\text{Id} \text{Ker} \text{tr} \text{rank} \text{RREF} \text{almu} \text{gemu} \text{sign} \text{span}$ (`\Id \Ker \tr \rank \RREF \almu \gemu \sign \Span`).
- Command for vectors: \underline{v} (`\vect{v}`).
- Matrices:

$$\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}, \begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}, \begin{vmatrix} 1 & 2 \\ 3 & 4 \end{vmatrix}$$

(`\bmat{1 & 2 \\\ 3 & 4}`, `\pmat{1 & 2 \\\ 3 & 4}`, `\vmat{1 & 2 \\\ 3 & 4}`).

Analysis.

- Differentiation operator: dx (`\dd x`).
- Imaginary number: i (`\I`).
- Operators: $\text{supp} \text{epi} \text{dist} \text{Re} \text{Im}$ (`\supp \epi \dist \Re \Im`).

2.3. Miscellaneous.

- Use `\ds` as a shorthand for `\displaystyle`.

3. CREDITS

I have stolen a lot of stuff from [Andrew Lin's](#) package, [lindrew](#), and [Gilles Castel's preamble file](#) for his [lecture notes](#).