

# The thmtools bundle<sup>\*</sup>

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## Abstract

The thmtools bundle provides several packages for commonly-needed features for theorems. As designed, the bundle should work with kernel theorems, the theorem package and the amsthm package.

**Warning:** Currently, things might still be a bit rough. You might want to consider not relying on thmtools for your Ph.D. thesis masterpiece.

## 1 thm-autoref

Fixes cooperation with hyperref's `\autoref`. No further intervention on part of the user needed. (Loads `aliasctr`, `thm-patch`.)

## 2 thm-listof

Provides a `\listoftheorems` command that works like `\listoffigures`. Also provided: a `\ignoretheorems` command that lets you exempt certain kinds:

```
\ignoretheorems{example,exercise,remark}
```

There's currently no user interface to customize the appearance of the LoTheorems. (Loads `thm-patch`.)

## 3 thm-kv

Provides a key-value alternative to `\newtheorem`, because I keep forgetting which optional argument goes where. Example:

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<sup>\*</sup>This is a beta version. If you want to slightly ahead of your time, new development versions are available from <http://www.absatzen.de/thmtools.html>

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```

\declaretheorem[unnumbered, title={Zorn's Lemma}]{zl}
%\newtheorem*{zl}{Zorn's Lemma}
\declaretheorem[numberwithin=section]{theorem}
%\newtheorem{theorem}{Theorem}[section]
\declaretheorem[sibling=theorem]{lemma}
%\newtheorem{lemma}[theorem]{Lemma}
\declaretheorem[numberlike=lemma]{axiom}
%\newtheorem{axiom}[lemma]{Axiom}

```

Supported keywords (several for the same functionality, because if you need to remember the keyword, you can just as well remember the order): parent, numberwithin, within; sibling, numberlike, sharennumber; unnumbered, starred<sup>1</sup>; title, name, heading.

Note: it's actually optional to give a title, in that case, the default is the name of the environment, with first letter uppercased.

## 4 thm-restate

Provides an environment `restatable` that essentially puts the entire theorem into a single macro command for later re-statement:

```

\begin{restatable}[Well-ordering]{theorem}{wohlordnung}\label{thm:order}
  Every set is well-ordered.
\end{restatable}
And again: \wohlordnung

```

Note that the label will be handled correctly (i.e. not re-defined). Limitation: verbatim-like things will not work. There's no handling for other counters, so it's not advisable to put floats inside a `restatable`.

## 5 aliasctr

Helper package, see separate doc.

## 6 unique

Helper package, see separate doc. Not used yet.

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<sup>1</sup>works only with `amsthm`

## 7 thm-patch

Helper package: redefines `\newtheorem` so the defined theorems have hooks we can use. Note that the redefinition will always allow `\newtheorem*` and giving contradicting optional arguments, but the backend original `\newtheorem` will complain.