

1 Formatting

1.1 Ordinary Text

Here is **bold text**, here is *emphasised text*, here is *italic text*, here is underlined text, and here is SMALL CAPS. Typography should be converted: “curly quotes” around a phrase, an em-dash like this—using three minus signs—and an en-dash in a range such as pages 10–20. A tilde makes a non-breaking space, as in Figure 1.

Native handling for links is handled. Here is an [inline link with custom text](#), and here is a bare one: <https://example.org>. A relative link points [back at the notes](#), and a link that sends mail works too: [send mail](#).

1.2 Lists

An unordered list:

- The first item, which is short.
- The second item, which is deliberately long to wrap onto a second line so that hanging indentation can be checked properly.
- The third item, containing **bold** and a link to [somewhere else](#).

An ordered list, including a nested one:

- (1) First numbered item.
- (2) Second numbered item, with a nested list:
 - A nested bullet.
 - Another nested bullet.
- (3) Third numbered item.
 - (a) And, for good measure...
 - (b) An ordered list.

1.3 Math

Inline math should sit on the text baseline: $x + y = z$, the reals $\mathbb{R}$, the naturals $\mathbb{N}$, a topology $\mathcal{T}$, a category $\mathcal{C}$, a norm $\|v\|$, an absolute value $|w|$, and a vector $\mathbf{u}$.

Display math.

$$\sum_{k=1}^n k = \frac{n(n+1)}{2}.$$

An aligned block:

$$\begin{aligned} a &= b + c \\ &= d + e + f. \end{aligned}$$

A partial derivative $\frac{\partial f}{\partial x}$, a second one $\frac{\partial^2 f}{\partial x^2}$, and a fraction with limits: $\lim_{n \rightarrow \infty} \frac{1}{n} = 0$.

2 Boxes

2.1 Numbered Boxes

[2.1.1] AXIOM *(An Axiom With a Title)*

This is an axiom box. It should be teal.

[2.1.2] DEFINITION *(A Definition With a Title)*

This is a definition box. It should be green. Definitions are the most common box in the notes, so this one also contains inline math $x \in \mathbb{R}$ to check spacing inside a box.

[2.1.3] THEOREM *(A Theorem With a Title)*

This is a theorem box. It should be red.

[2.1.4] PROPOSITION *(A Proposition With a Title)*

This is a proposition box. It should be yellow.

[2.1.5] LEMMA *(A Lemma With a Title)*

This is a lemma box. It should be purple.

[2.1.6] COROLLARY *(A Corollary With a Title)*

This is a corollary box. It should be blue.

2.2 Numbered Boxes, Part Two

[2.2.1] REMARK *(A Remark With a Title)*

This is a remark box.

[2.2.2] EXAMPLE *(An Example With a Title)*

This is an example box.

[2.2.3] RECAP *(A Recap With a Title)*

This is a recap box. It should be slate grey.

[2.2.4] PROBLEM (*A Problem With a Title*)

This is a problem box. It should be a stronger blue than the corollary.

A box with no title argument at all:

[2.2.5] DEFINITION

This definition was declared without an optional title, so the header should show only its number and the word DEFINITION.

2.3 Inner Boxes

Inner boxes carry no number of their own and inherit the colour of whatever box encloses them.

[2.3.1] THEOREM (*Enclosing Theorem*)

A theorem containing a proof, so the proof rule should be red.

Proof. This is a proof box. It should end with a QED mark on the right.



[2.3.2] DEFINITION (*Enclosing Definition*)

A definition containing an intuition block, so its rule should be green.

Intuition. This is an intuition box. Unlike a proof, it carries no QED mark.

[2.3.3] PROBLEM (*Enclosing Problem*)

A problem containing a solution.

Proof. This is a solution box.



A proof outside any box, which should fall back to the default grey rule.

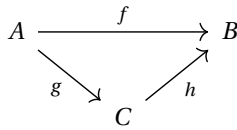
Proof. A standalone proof with nothing enclosing it.



3 Diagrams

3.1 A Commutative Diagram

A single tikzcd diagram.



3.2 Two Diagrams and a Caption

Two diagrams, how bold!



Figure. Two commutative diagrams in one region.

3.3 A Picture With Colour

A picture with COLORS! This must also survive light to dark mode switching.

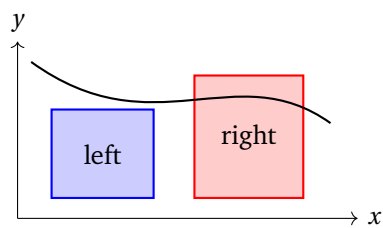


Figure. Colored fills next to black strokes.

4 Structure and Edge Cases

4.1 Subsubsections

The section above this one is level two. What follows is level three.

4.1.1 A Level Three Heading

More.

4.1.2 A Second Level Three Heading

More!

4.2 Long Prose

This paragraph exists purely to occupy vertical space.

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4.3 The End

[4.3.1] REMARK

This is the final box in the document, and exists so that the last entry in the contents sidebar has content beneath it.