
*Template for the class ``Note for
Myself' in sectionlevel=chapter*



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1 Section name

1.1 Fonts in math mode

We use the unicode-math package to support Unicode math symbols. Below is a list of common math symbols, grouped by font/style, with their names:

- **Greek letters:** A, B, Γ, Δ, E, Z, H, Θ, I, K, Λ, M, N, Ξ, O, Π, P, Σ, T, Υ, Φ, X, Ψ, Ω;
- $\alpha, \beta, \gamma, \delta, \epsilon, \zeta, \eta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \rho, \sigma, \tau, \upsilon, \phi, \chi, \psi, \omega$;
- **Numbers and operators:** 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, +, −, ×, ÷, =, <, >, ≤, ≥
- **Common math symbols:** ∞, ∂, ∇, ∀, ∃, ¬, ∧, ∨, ⇒, ⇔, ⊂, ⊆, ⊃, ⊇, ∪, ∩, \, ∅, ↪, ⇒, ⇝, ⇢, ⇠, ⇤, ⇥, ⇦, ⇧, ⇨, ⇩, ⇪, ⇫, ⇬, ⇭, ⇮, ⇯, ⇰, ⇱, ⇲, ⇳, ⇴, ⇵, ⇶, ⇷, ⇸, ⇹, ⇺, ⇻, ⇼, ⇽, ⇾, ⇿, ⤿, ⤵, ⤴, ⤳, ⤲, ⤱, ⤰, ⤯, ⤮, ⤭, ⤬, ⤫, ⤪, ⤩, ⤨, ⤧, ⤦, ⤥, ⤤, ⤣, ⤢, ⤡, ⤠, ⤟, ⤞, ⤝, ⤜, ⤛, ⤚, ⤙, ⤘, ⤗, ⤖, ⤕, ⤔, ⤓, ⤒, ⤑, ⤐, ⤏, ⤎, ⤍, ⤌, ⤋, ⤊, ⤉, ⤈, ⤇, ⤆, ⤅, ⤄, ⤃, ⤂, ⤁, ⤀;
- **Latin letters (math italic):** A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z;
- $a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z$;
- **Calligraphic:** A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z,
- $a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z$
- **Blackboard bold:** A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z;
- $\mathbb{a}, \mathbb{b}, \mathbb{c}, \mathbb{d}, \mathbb{e}, \mathbb{f}, \mathbb{g}, \mathbb{h}, \mathbb{i}, \mathbb{j}, \mathbb{k}, \mathbb{l}, \mathbb{m}, \mathbb{n}, \mathbb{o}, \mathbb{p}, \mathbb{q}, \mathbb{r}, \mathbb{s}, \mathbb{t}, \mathbb{u}, \mathbb{v}, \mathbb{w}, \mathbb{x}, \mathbb{y}, \mathbb{z}$;
- **Fraktur:** A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z;
- $\mathfrak{a}, \mathfrak{b}, \mathfrak{c}, \mathfrak{d}, \mathfrak{e}, \mathfrak{f}, \mathfrak{g}, \mathfrak{h}, \mathfrak{i}, \mathfrak{j}, \mathfrak{k}, \mathfrak{l}, \mathfrak{m}, \mathfrak{n}, \mathfrak{o}, \mathfrak{p}, \mathfrak{q}, \mathfrak{r}, \mathfrak{s}, \mathfrak{t}, \mathfrak{u}, \mathfrak{v}, \mathfrak{w}, \mathfrak{x}, \mathfrak{y}, \mathfrak{z}$;
- **Script:** A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z;

- *a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z;*
- **Upright:** A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z;
- a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z;
- **Bold :** A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z;
- **a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z.**
- **Sans-serif:** A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z;
- a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z;
- **Roman:** A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z;
- a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z;

1.2 Theorems and definitions

There are two types of theorem environments, one is with background color, the other is without background color. The following is a list of theorem environments supported by this template:

Definition 1.1 (this is a definition). test

Proposition 1.2 (this is a proposition). test

Proof. This is a proof environment, it is used to prove theorems, propositions, lemmas, corollaries, etc. We allow to use step environments inside the proof environment, such as:

Step 1. This is a step environment, it is used to break down the proof into smaller steps.

Step 2. This is another step environment, it is used to break down the proof into smaller steps.

And the step environment should be used inside the proof environment. The proof environment will automatically end with a square box. □

Theorem 1.3 (this is a theorem). test

Proof. This is a proof environment. The step environment is labelled in the proof environment. A new proof environment will refresh the step environment counter.

Step 1. Goal 1.

Proof of Goal 1.

Step 2. Goal 2.

Proof of Goal 2.

Here we test the hyperlink to the step environment [Step 1](#).

You can also use the claim environment to make a claim in the proof environment, such as:

Claim 1.4. This is a claim environment, it is used to make a claim in the proof environment.

And the claim environment should be used inside the proof environment. □

| *Proof of [Claim 1.4](#).* This is a proof for the [Claim 1.4](#). □

Lemma 1.5 (this is a lemma). test

Corollary 1.6 (this is a corollary). test

Question 1.7 (this is a question). test

Conjecture 1.8 (this is a conjecture). test

Example 1.9 (this is an example). test

Exercise 1.10 (this is an exercise). test

Remark 1.11 (this is a remark). test

| *this is a proof.* test □

1.3 sectionlevel=section

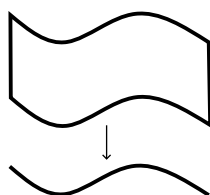
In this mode, the section is the highest level, and usually there are more than one section in the document. This is a title page. All theorem and definition environments are labelled in the form of section.number, such as 1.1, 1.2, etc.

Test references [[Har77](#)].

2 Test Section

2.1 Test Subsection

Test plots:



There are some test texts here, and some test equations:

References

[Har77] Robin Hartshorne. *Algebraic geometry*. Vol. No. 52. Graduate Texts in Mathematics. Springer-Verlag, New York-Heidelberg, 1977, pp. xvi+496. ISBN: 0-387-90244-9 (cit. on p. [3](#)).