1. Comments

The philosophy behind the conventions used in writing these documents is to choose those conventions that work.

2. Set theory

We use Zermelo-Fraenkel set theory with the axiom of choice. See [Kun83]. We do not use universes (different from SGA4). We do not stress set-theoretic issues, but we make sure everything is correct (of course) and so we do not ignore them either.

3. Categories

A category \( \mathcal{C} \) consists of a set of objects and, for each pair of objects, a set of morphisms between them. In other words, it is what is called a “small” category in other texts. We will use “big” categories (categories whose objects form a proper class) as well, but only those that are listed in Categories, Remark 2.2.

4. Algebra

In these notes a ring is a commutative ring with a 1. Hence the category of rings has an initial object \( \mathbb{Z} \) and a final object \( \{0\} \) (this is the unique ring where \( 1 = 0 \)). Modules are assumed unitary. See [Eis95].

5. Notation

The natural integers are elements of \( \mathbb{N} = \{1, 2, 3, \ldots \} \). The integers are elements of \( \mathbb{Z} = \{\ldots, -2, -1, 0, 1, 2, \ldots \} \). The field of rational numbers is denoted \( \mathbb{Q} \). The field of real numbers is denoted \( \mathbb{R} \). The field of complex numbers is denoted \( \mathbb{C} \).
6. Other chapters

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