

CONVENTIONS

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Contents

1. Comments	1
2. Set theory	1
3. Categories	1
4. Algebra	1
5. Notation	1
6. Other chapters	2
References	3

1. Comments

0003 The philosophy behind the conventions used in writing these documents is to choose those conventions that work.

2. Set theory

0004 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

0005 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

0006 In these notes a ring is a commutative ring with a 1. Hence the category of rings has an initial object \mathbf{Z} and a final object $\{0\}$ (this is the unique ring where $1 = 0$). Modules are assumed unitary. See [Eis95].

5. Notation

055X The natural integers are elements of $\mathbf{N} = \{1, 2, 3, \dots\}$. The integers are elements of $\mathbf{Z} = \{\dots, -2, -1, 0, 1, 2, \dots\}$. The field of rational numbers is denoted \mathbf{Q} . The field of real numbers is denoted \mathbf{R} . The field of complex numbers is denoted \mathbf{C} .

6. Other chapters

- Preliminaries
 - (1) Introduction
 - (2) Conventions
 - (3) Set Theory
 - (4) Categories
 - (5) Topology
 - (6) Sheaves on Spaces
 - (7) Sites and Sheaves
 - (8) Stacks
 - (9) Fields
 - (10) Commutative Algebra
 - (11) Brauer Groups
 - (12) Homological Algebra
 - (13) Derived Categories
 - (14) Simplicial Methods
 - (15) More on Algebra
 - (16) Smoothing Ring Maps
 - (17) Sheaves of Modules
 - (18) Modules on Sites
 - (19) Injectives
 - (20) Cohomology of Sheaves
 - (21) Cohomology on Sites
 - (22) Differential Graded Algebra
 - (23) Divided Power Algebra
 - (24) Hypercoverings
- Schemes
 - (25) Schemes
 - (26) Constructions of Schemes
 - (27) Properties of Schemes
 - (28) Morphisms of Schemes
 - (29) Cohomology of Schemes
 - (30) Divisors
 - (31) Limits of Schemes
 - (32) Varieties
 - (33) Topologies on Schemes
 - (34) Descent
 - (35) Derived Categories of Schemes
 - (36) More on Morphisms
 - (37) More on Flatness
 - (38) Groupoid Schemes
 - (39) More on Groupoid Schemes
 - (40) Étale Morphisms of Schemes
- Topics in Scheme Theory
 - (41) Chow Homology
 - (42) Intersection Theory
- (43) Picard Schemes of Curves
- (44) Adequate Modules
- (45) Dualizing Complexes
- (46) Duality for Schemes
- (47) Discriminants and Differents
- (48) Local Cohomology
- (49) Algebraic Curves
- (50) Resolution of Surfaces
- (51) Semistable Reduction
- (52) Fundamental Groups of Schemes
- (53) Étale Cohomology
- (54) Crystalline Cohomology
- (55) Pro-étale Cohomology
- Algebraic Spaces
 - (56) Algebraic Spaces
 - (57) Properties of Algebraic Spaces
 - (58) Morphisms of Algebraic Spaces
 - (59) Decent Algebraic Spaces
 - (60) Cohomology of Algebraic Spaces
 - (61) Limits of Algebraic Spaces
 - (62) Divisors on Algebraic Spaces
 - (63) Algebraic Spaces over Fields
 - (64) Topologies on Algebraic Spaces
 - (65) Descent and Algebraic Spaces
 - (66) Derived Categories of Spaces
 - (67) More on Morphisms of Spaces
 - (68) Flatness on Algebraic Spaces
 - (69) Groupoids in Algebraic Spaces
 - (70) More on Groupoids in Spaces
 - (71) Bootstrap
 - (72) Pushouts of Algebraic Spaces
- Topics in Geometry
 - (73) Quotients of Groupoids
 - (74) More on Cohomology of Spaces
 - (75) Simplicial Spaces
 - (76) Formal Algebraic Spaces
 - (77) Restricted Power Series
 - (78) Resolution of Surfaces Revisited
- Deformation Theory
 - (79) Formal Deformation Theory
 - (80) Deformation Theory
 - (81) The Cotangent Complex
 - (82) Deformation Problems
- Algebraic Stacks
 - (83) Algebraic Stacks

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| (84) Examples of Stacks | Topics in Moduli Theory |
| (85) Sheaves on Algebraic Stacks | (97) Moduli Stacks |
| (86) Criteria for Representability | (98) Moduli of Curves |
| (87) Artin's Axioms | Miscellany |
| (88) Quot and Hilbert Spaces | (99) Examples |
| (89) Properties of Algebraic Stacks | (100) Exercises |
| (90) Morphisms of Algebraic Stacks | (101) Guide to Literature |
| (91) Limits of Algebraic Stacks | (102) Desirables |
| (92) Cohomology of Algebraic Stacks | (103) Coding Style |
| (93) Derived Categories of Stacks | (104) Obsolete |
| (94) Introducing Algebraic Stacks | (105) GNU Free Documentation License |
| (95) More on Morphisms of Stacks | (106) Auto Generated Index |
| (96) The Geometry of Stacks | |

References

- [Eis95] David Eisenbud, *Commutative algebra*, Graduate Texts in Mathematics, vol. 150, Springer-Verlag, 1995.
- [Kun83] Kenneth Kunen, *Set theory*, Elsevier Science, 1983.