

MA651 Topology. Questions for quizzes 2.

1. Preorder relation, preordered set (Definition 10.1)
2. Maximal element, upper bound, chain (Definition 10.2)
3. Partially and totally ordered sets (Definition 10.3)
4. Well-ordered set (Definition 10.4)
5. Axiom of choice, Zorn's lemma, and Zermelo's theorem and their equivalence (Theorem 11.1)
6. Partially and totally ordered sets (Definition 10.3)
7. Monomorphism and isomorphism of well-ordered sets (Definition 12.2)
8. Compatibility of ordinal numbers (Theorem 14.1)
9. Transfinite induction theorem (Theorem 15.2) *with proof!*
10. Equipotence of sets (Definition 16.1)
11. Cantor-Bernstein theorem (Theorem 16.2)
12. Finite, countable, and uncountable sets (Definitions 17.1, 17.2, 17.3)
13. Cartesian product of a family of sets (Definition 18.1)