

Solutions Notebook for  
Algebra  
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## Part I

# The Basic Objects of Algebra



# Chapter 1

## Groups

### 1.1 Exercises

**Exercise 1.1.** Show that every group of order  $\leq 5$  is abelian.

**Exercise 1.2.** Show that there are two non-isomorphic groups of order 4, namely the cyclic one, and the product of two cyclic groups of order 2.





# Part II

## Algebraic Equations



## Part III

# Linear Algebra and Representations



Part IV

Homological Algebra

