

Solutions to Jean-Pierre Serre's
Linear Representations of Finite Groups

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ABSTRACT. This document contains solutions to the exercises of J-P. Serre's *Linear Representations of Finite Groups*.

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Part I

Representations and Characters

CHAPTER 2

Character theory

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CHAPTER 3

Subgroups, products, induced representations

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CHAPTER 5

Examples

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Part II

Representations in Characteristic Zero

CHAPTER 6

The group algebra

- 6.1.
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CHAPTER 7

Induced representations; Mackey's criterion

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7.4.

CHAPTER 8

Examples of induced representations

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- 8.10.
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CHAPTER 9

Artin's theorem

9.1.

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CHAPTER 10

A theorem of Brauer

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CHAPTER 11

Applications of Brauer's theorem

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CHAPTER 12

Rationality questions

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CHAPTER 13

Rationality questions: examples

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Part III

Introduction to Brauer Theory

CHAPTER 14

The groups $R_K(G)$, $R_k(G)$, and $P_k(G)$

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CHAPTER 15

The *cde* triangle

15.1.

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CHAPTER 16

Theorems

16.1.

16.2.

16.3.

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16.6.

16.7.

16.8.

16.9.

CHAPTER 17

Proofs

17.1.

CHAPTER 18

Modular characters

- 18.1.
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