

EXERCISES 11

1. Let $\cdot : \mathbb{C}[G] \times V \rightarrow V$ be a map and define $* : V \times \mathbb{C}[G] \rightarrow V$ by

$$v * \sum_{g \in G} c_g [g] := \sum_{g \in G} c_g [g^{-1}] \cdot v.$$

Prove that \cdot gives V the structure of a right $\mathbb{C}[G]$ -module if and only if $*$ gives V the structure of a left $\mathbb{C}[G]$ -module.

2. Exercises 8.4, 8.10, 8.11.