



Definition

Suppose G is a finite group with identity 1 and suppose V is a vector space over the field \mathbf{C} of complex numbers. A *linear representation* $\rho : G \rightarrow GL(V)$ of G in V is a **group homomorphism** from G to the general linear group $GL(V)$. Given ρ , we call V a *representation space* (or *representation*) of G

Suppose V has finite dimension n . In this case, we call n the *degree* of the representation ρ . Given a basis e_1, \dots, e_n of V ,

