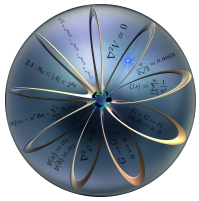

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class equation

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The conjugacy classes of a group form a partition of its elements. In a finite group, this means that the order of the group is the sum of the number of elements of the distinct conjugacy classes. For an element g of group G, we denote the centralizer in G of g by $C_G(g)$. The number of elements in the conjugacy class of g is $[G : C_G(g)]$, the index of $C_G(g)$ in G. For an element g of the center $Z(G)$ of G, the conjugacy class of g consists of the singleton $\{g\}$. Putting this together gives us the *class equation*

$$|G| = |Z(G)| + \sum_{i=1}^{m} [G : C_G(x_i)]$$

where the x_i are elements of the distinct conjugacy classes contained in $G \setminus Z(G)$.