Graduate

SEMINARIO DE ÁLGEBRA

On the number of cyclic subgroups of a finite group

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Abstract. Let G be a finite group and denote by $c(G)$ the number of cyclic subgroups of G. Consider the function $\alpha(G) = c(G)/|G|$. We will explore some properties of $\alpha(G)$.

Given a family of groups $\mathcal{F}$ (finite groups, non-abelian groups, non-nilpotent groups, non-solvable groups, non-supersolvable groups ...), we will classify $G \in \mathcal{F}$ such that $\alpha(G)$ is maximal. So we will talk about the asymptotic behavior of $\alpha(G)$.

We will talk about the connection of $\alpha(G)$ with the number of involutions, commuting probability, maximal covers of groups and also recent results.

This is a work in collaboration with Prof. Martino Garonzi (UnB) and also a work with Prof. Raimundo Bastos (UnB) and Prof. Robério Rogério (UFC).