The Modular Tensor Category $\mathcal{Z}(\mathrm{Vec}_G)$

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.[WORK: Give introduction]

[WORK: Define $\mathbf{Vec}_G$]

[WORK: Define $\mathcal{Z}(\mathbf{Vec}_G)$]

[WORK: Show that $\mathcal{Z}(\mathbf{Vec}_G)$ is the category of G-graded representations of G. State that there is a "duality" between the G we are taking reps of and the G that is doing the grading - a few words about Hopf algebra interpretation?]

[WORK: Show that simple objects correspond to chosing a conjugacy class and an irrep. State this is part of a more general duality between conjugacy classes and irreps (e.g. Fourier transform when G is abelian). In particular, both sets have the same size.]

[WORK: Compute fusion coefficents]

[WORK: Compute quantum dimensions]

[WORK: Compute braiding coefficients]

[WORK: Find twisting coeffients]

[WORK: State Verlinde formula, in the form given by Burnside. Give an elementary proof, and then give a proof using the more general Verlinde formula.]