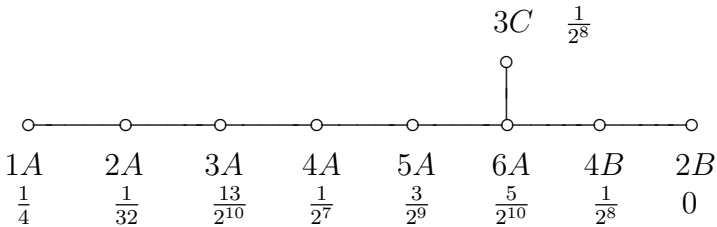


EXTENDED E_8 DIAGRAM AND MCKAY'S OBSERVATION ON THE MONSTER SIMPLE GROUP

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Let ϕ and ψ be $2A$ -involutions of the Monster simple group. It is well known that the order of $\phi\psi$ is always ≤ 6 . In fact, $\phi\psi$ belongs to the class $1A, 2A, 3A, 4A, 5A, 6A, 4B, 2B$, or $3C$.

John McKay observed that there is an interesting correspondence with the extended E_8 diagram.



where the numerical labels are equal to the multiplicities of the corresponding simple roots in the highest root.

In this talk, we will try to interpret the McKay diagram using the theory of vertex operator algebra algebra and their automorphism groups.