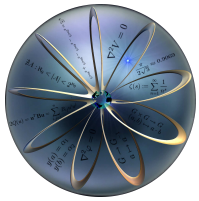

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Frobenius map

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Let K be any field of characteristic $p > 0$, and suppose K contains the finite field $\mathbb{F}_q$ of size q, where $q = p^r$. The q^{th} power Frobenius map on K is the map $\text{Frob}_q : K \longrightarrow K$ defined by $\text{Frob}_q(x) := x^q$.

If K is perfect, then Frob_q is an automorphism of K which fixes $\mathbb{F}_q$, and accordingly is a member of the Galois group $\text{Gal}(K/\mathbb{F}_q)$.