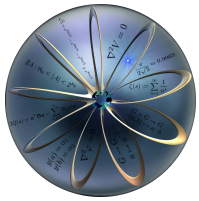

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kernel

Canonical name	Kernel
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Let $\rho : G \to K$ be a group homomorphism. The preimage of the codomain identity element $e_K \in K$ forms a subgroup of the domain G, called the *kernel* of the homomorphism;

$$\ker(\rho) = \{s \in G \mid \rho(s) = e_K\}$$

The kernel is a normal subgroup. It is the trivial subgroup if and only if ρ is a monomorphism.