Algebraic Number Theory

Labix

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Abstract

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Definition 1.0.1: Algebraic Number Field

An algebraic number field is a finite field extension $\mathbb{Q} < K$.

Definition 1.0.2: Ring of Integers

Let K be an algebraic number field. Define the ring of integers of K to be

$$\mathcal{O}_K = \{\alpha \in K \mid \alpha \text{ is integral over } \mathbb{Z}\}$$