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## DEFINITIONS AND MATHEMATICAL KNOWLEDGE

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#### **Definitions and Mathematical Knowledge**

Elements in the Philosophy of Mathematics

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**Abstract**: This Element discusses the philosophical roles of definitions in the attainment of mathematical knowledge. It first focuses on the role of definitions in foundational programs, and then examines their major varieties, both as regards their origins, their potential epistemic roles, and their formal constraints. It examines explicit definitions, implicit definitions, and implicit definitions of primitive terms, these latter being further divided into axiomatic and abstractive. After discussing elucidations and explications, various ways in which definitions can yield mathematical knowledge are surveyed.

Keywords: mathematical definitions, axioms, abstraction principles, foundations of mathematics, mathematical knowledge

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