Cambridge Elements

Elements in the Philosophy of Mathematics
edited by
Penelope Rush
University of Tasmania
Stewart Shapiro
The Ohio State University

MATHEMATICAL INTUITIONISM

Carl J. Posy

Hebrew University of Jerusalem

CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE
UNIVERSITY PRESS

Mathematical Intuitionism

Elements in the Philosophy of Mathematics

Carl J. Posy
Hebrew University of Jerusalem

Author for correspondence: Carl J. Posy, carl.posy@mail.huji.ac.il

Abstract: L. E. J. Brouwer, the founder of mathematical intuitionism, believed that mathematics and its objects must be humanly graspable. He initiated a programme rebuilding modern mathematics according to that principle. This Element introduces the reader to the mathematical core of intuitionism – from elementary number theory through Brouwer's uniform continuity theorem – and to the two central topics of 'formalised intuitionism': formal intuitionistic logic, and formal systems for intuitionistic analysis. Building on that, the Element proposes a systematic philosophical foundation for intuitionism that weaves together doctrines about human grasp, about mathematical objects and about mathematical truth.

Contents