Kurt Godel And The Foundations Of Mathematics

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Gödel 96: Logical Foundations of Mathematics, Computer Science, and Physics Petr Hájek 2001-03-26 This volume contains the proceedings of the conference Logical Foundations of Mathematics, Computer Science, and Physics-Kurt Gödel's Legacy, held in Brno, Czech Republic on the 90th anniversary of his birth. The wide and continuing importance of Gödel s work in the logical foundations of mathematics, computer science, and physics is confirmed by the broad range of speakers who participated in making this gathering a scientific event.
Incompleteness: The Proof and Paradox of Kurt Gödel (Great Discoveries) Rebecca Goldstein 2006-02-17 A portrait of the eminent twentieth-century mathematician discusses his theorem of incompleteness, relationships with such contemporaries as Albert Einstein, and untimely death as a result of mental instability and self-starvation.
Goedel's Way Gregory Chaitin 2011-10-14 Kurt Gödel (1906-1978) was an Austrian-American mathematician, who is best known for his incompleteness theorems. He was the greatest mathematical logician of the 20th century, with his contributions extending to Einstein’s general relativity, as he proved that Einstein’s theory allows for time machines. The Gödel incompleteness theorem - the usual formal mathematical systems cannot prove nor disprove all true mathematical sentences - is frequently presented in textbooks as something that happens in the rarefied realms of mathematical logic, and that has nothing to do with the real world. Practice shows the contrary though; one can demonstrate the validity of the phenomenon in various areas, ranging from chaos theory and physics to economics and even ecology. In this lively treatise, based on Chaitin’s groundbreaking work and on the da Costa-Doria results in physics, ecology, economics and computer science, the authors show that the Gödel incompleteness phenomenon can directly bear on the practice of science and perhaps on our everyday life. This accessible book gives a new, detailed and elementary explanation of the Gödel incompleteness theorems and presents the Chaitin results and their relation to the da Costa-Doria results, which are given in full, but with no technicalities. Besides theory, the historical report and personal stories about the main character and on this book’s writing process, make it appealing leisure reading for those interested in mathematics, logic, physics, philosophy and computer sciences. See also: http://www.youtube.com/watch?v=REy9noY5Sg8
The Logical Foundations of Mathematics William S. Hatcher 2014-05-09 The Logical Foundations of Mathematics offers a study of the foundations of mathematics, stressing comparisons between and critical analyses of the major non-constructive foundational systems. The position

of constructivism within the spectrum of foundational philosophies is discussed, along with the exact relationship between topos theory and set theory. Comprised of eight chapters, this book begins with an introduction to first-order logic. In particular, two complete systems of axioms and rules for the first-order predicate calculus are given, one for efficiency in proving metatheorems, and the other, in a "natural deduction" style, for presenting detailed formal proofs. A somewhat novel feature of this framework is a full semantic and syntactic treatment of variable-binding term operators as primitive symbols of logic. Subsequent chapters focus on the origin of modern foundational studies; Gottlob Frege's formal system intended to serve as a foundation for mathematics and its paradoxes; the theory of types; and the Zermelo-Fraenkel set theory. David Hilbert's program and Kurt Gödel's incompleteness theorems are also examined, along with the foundational systems of W. V. Quine and the relevance of categorical algebra for foundations. This monograph will be of interest to students, teachers, practitioners, and researchers in mathematics.

Gödel's Theorem Torkel Franzén 2005-06-06 "Among the many expositions of Gödel's incompleteness theorems written for non-specialists, this book stands apart. With exceptional clarity, Franzén gives careful, non-technical explanations both of what those theorems say and, more importantly, what they do not. No other book aims, as his does, to address in detail the misunderstandings and abuses of the incompleteness theorems that are so rife in popular discussions of their significance. As an antidote to the many spurious appeals to incompleteness in theological, anti-mechanist and post-modernist debates, it is a valuable addition to the literature." --- John W. Dawson, author of Logical Dilemmas: The Life and Work of Kurt Gödel

Godel's Theorem in Focus S.G. Shanker 2012-08-21 A layman's guide to the mechanics of Gödel's proof together with a lucid discussion of the issues which it raises. Includes an essay discussing the significance of Gödel's work in the light of Wittgenstein's criticisms.

Principia Mathematica Alfred North Whitehead 1927 Principia Mathematica was first published in 1910-13; this is the ninth impression of the second edition of 1925-7. The Principia has long been recognised as one of the intellectual landmarks of the century. It was the first book to show clearly the close relationship between mathematics and formal logic. Starting from a minimal number of axioms, Whitehead and Russell display the structure of both kinds of thought. No other book has had such an influence on the subsequent history of mathematical philosophy.

Foundations of Mathematics; Symposium Papers Commemorating the Sixtieth Birthday of Kurt Godel. Edited by Jack J. Bulloff, Thomas C. Holyoke (And) S.W. Hahn 1969

On Formally Undecidable Propositions of Principia Mathematica and Related Systems Kurt Gödel 1992-01-01 In 1931, a young Austrian mathematician published an epoch-making paper containing one of the most revolutionary ideas in logic since Aristotle. Kurt Giidel maintained, and offered detailed proof, that in any arithmetic system, even in elementary parts of arithmetic, there are propositions which cannot be proved or disproved within the system. It is thus uncertain that the basic axioms of arithmetic will not give rise to contradictions. The repercussions of this discovery are still being felt and debated in 20th-century mathematics. The present volume reprints the first English translation of Giidel's far-reaching work. Not only does it make the argument more intelligible, but the introduction contributed by Professor R. B. Braithwaite (Cambridge University}, an excellent work of scholarship in its own right, illuminates it by paraphrasing the major part of the argument. This Dover edition thus makes widely available a superb edition of a classic work of original thought, one that will be of profound interest to mathematicians, logicians and anyone interested in the history of attempts to establish axioms that would provide a rigorous basis for all mathematics. Translated by B. Meltzer, University of Edinburgh. Preface. Introduction by R. B. Braithwaite.

Consistency of the Continuum Hypothesis. (AM-3), Volume 3 Kurt Gödel 2016-03-02 Kurt Gödel, mathematician and logician, was one of the most influential thinkers of the twentieth century. Gödel fled Nazi Germany, fearing for his Jewish wife and fed up with Nazi interference in the affairs of the mathematics institute at the University of Göttingen. In 1933 he

settled at the Institute for Advanced Study in Princeton, where he joined the group of world-famous mathematicians who made up its original faculty. His 1940 book, better known by its short title, The Consistency of the Continuum Hypothesis, is a classic of modern mathematics. The continuum hypothesis, introduced by mathematician George Cantor in 1877, states that there is no set of numbers between the integers and real numbers. It was later included as the first of mathematician David Hilbert's twenty-three unsolved math problems, famously delivered as a manifesto to the field of mathematics at the International Congress of Mathematicians in Paris in 1900. In The Consistency of the Continuum Hypothesis Gödel set forth his proof for this problem. In 1999, Time magazine ranked him higher than fellow scientists Edwin Hubble, Enrico Fermi, John Maynard Keynes, James Watson, Francis Crick, and Jonas Salk. He is most renowned for his proof in 1931 of the 'incompleteness theorem,' in which he demonstrated that there are problems that cannot be solved by any set of rules or procedures. His proof wrought fruitful havoc in mathematics, logic, and beyond.

Cambridge and Vienna Maria C. Galavotti 2006-07-10 The Institute Vienna Circle held a conference in Vienna in 2003, Cambridge and Vienna – Frank P. Ramsey and the Vienna Circle, to commemorate the philosophical and scientific work of Frank Plumpton Ramsey (1903–1930). This Ramsey conference provided not only historical and biographical perspectives on one of the most gifted thinkers of the Twentieth Century, but also new impulses for further research on at least some of the topics pioneered by Ramsey, whose interest and potential are greater than ever. Ramsey did pioneering work in several fields, practitioners of which rarely know of his important work in other fields: philosophy of logic and theory of language, foundations of mathematics, mathematics, probability theory, methodology of science, philosophy of psychology, and economics. There was a focus on the one topic which was of strongest mutual concern to Ramsey and the Vienna Circle, namely the question of foundations of mathematics, in particular the status of logicism. Although the major scientific connection linking Ramsey with Austria is his work on logic, to which the Vienna Circle dedicated several meetings, certainly the connection which is of greater general interest concerns Ramsey's visits and discussions with Wittgenstein. Ramsey was the only important thinker to actually visit Wittgenstein during his school-teaching career in Puchberg and Ottertal in the 1920s, in Lower Austria; and later, Ramsey was instrumental in getting Wittgenstein positions at Cambridge.

Philosophy of Mathematics Øystein Linnebo 2020-03-24 A sophisticated, original introduction to the philosophy of mathematics from one of its leading thinkers Mathematics is a model of precision and objectivity, but it appears distinct from the empirical sciences because it seems to deliver nonexperiential knowledge of a nonphysical reality of numbers, sets, and functions. How can these two aspects of mathematics be reconciled? This concise book provides a systematic, accessible introduction to the field that is trying to answer that question: the philosophy of mathematics. Øystein Linnebo, one of the world's leading scholars on the subject, introduces all of the classical approaches to the field as well as more specialized issues, including mathematical intuition, potential infinity, and the search for new mathematical axioms. Sophisticated but clear and approachable, this is an essential book for all students and teachers of philosophy and of mathematics.

Kurt Gödel and the Foundations of Mathematics Matthias Baaz 2011 "This volume commemorates the life, work, and foundational views of Kurt Gödel (1906-1978), most famous for his hallmark works on the completeness of first-order logic, the incompleteness of number theory, and the consistency - with the other widely accepted axioms of set theory - of the axiom of choice and of the generalized continuum hypothesis. It explores current research, advances, and ideas for future directions not only in the foundations of mathematics and logic, but also in the fields of computer science, artificial intelligence, physics, cosmology, philosophy, theology, and the history of science. The discussion is supplemented by personal reflections from several scholars who knew Gödel personally, providing some interesting insights into his life. By putting his ideas and life's work into the context of current thinking and perceptions, this book will extend the impact of Gödel's fundamental work in mathematics, logic, philosophy, and other disciplines for future generations of researchers"--

Kurt Gödel Solomon Feferman 2010-04-19 Kurt Gödel (1906–1978) did groundbreaking work that transformed logic and other important aspects of our understanding of mathematics, especially his proof of the incompleteness of formalized arithmetic. This book on different aspects of his work and on subjects in which his ideas have contemporary resonance includes papers from a May 2006 symposium celebrating Gödel's centennial as well as papers from a 2004 symposium. Proof theory, set theory, philosophy of mathematics, and the editing of Gödel's writings are among the topics covered. Several chapters discuss his intellectual development and his relation to predecessors and contemporaries such as Hilbert, Carnap, and Herbrand. Others consider his views on justification in set theory in light of more recent work and contemporary echoes of his incompleteness theorems and the concept of constructible sets.
Publications 1929-1936 Kurt Gödel 1986
Topoi R. Goldblatt 2014-06-28 The first of its kind, this book presents a widely accessible exposition of topos theory, aimed at the philosopher-logician as well as the mathematician. It is suitable for individual study or use in class at the graduate level (it includes 500 exercises). It begins with a fully motivated introduction to category theory itself, moving always from the particular example to the abstract concept. It then introduces the notion of elementary topos, with a wide range of examples and goes on to develop its theory in depth, and to elicit in detail its relationship to Kripke's intuitionistic semantics, models of classical set theory and the conceptual framework of sheaf theory (``localization'' of truth). Of particular interest is a Dedekind-cuts style construction of number systems in topoi, leading to a model of the intuitionistic continuum in which a ``Dedekind-real'' becomes represented as a ``continuously-variable classical real number''. The second edition contains a new chapter, entitled Logical Geometry, which introduces the reader to the theory of geometric morphisms of Grothendieck topoi, and its model-theoretic rendering by Makkai and Reyes. The aim of this chapter is to explain why Deligne's theorem about the existence of points of coherent topoi is equivalent to the classical Completeness theorem for ``geometric'' first-order formulae.

Gödel '96 Petr Hájek 2017-03-02 Since their inception, the Perspectives in Logic and Lecture Notes in Logic series have published seminal works by leading logicians. Many of the original books in the series have been unavailable for years, but they are now in print once again. This volume, the sixth publication in the Lecture Notes in Logic series, collects the proceedings of the conference 'Logical Foundations of Mathematics, Computer Science, and Physics - Kurt Gödel's Legacy', held in Brno, Czech Republic, on the 90th anniversary of Gödel's birth. The broad range of speakers who participated in this event affirms the continuing importance of Gödel's work in logic, physics, and the philosophy and foundations of mathematics and computer science. The papers in this volume range over all these topics and contribute to our present understanding of them.
Kurt Gödel: Collected Works: Volume III Kurt Gödel 1986 Kurt Gödel was the greatest logician of this century. This third volume of his collected works consists of previously unpublished material, both essays and lectures.
Can Mathematics Be Proved Consistent? Jan von Plato 2020-07-24 Kurt Gödel (1906–1978) shook the mathematical world in 1931 by a result that has become an icon of 20th century science: The search for rigour in proving mathematical theorems had led to the formalization of mathematical proofs, to the extent that such proving could be reduced to the application of a few mechanical rules. Gödel showed that whenever the part of mathematics under formalization contains elementary arithmetic, there will be arithmetical statements that should be formally provable but aren’t. The result is known as Gödel’s first incompleteness theorem, so called because there is a second incompleteness result, embodied in his answer to the question "Can mathematics be proved consistent?" This book offers the first examination of Gödel’s preserved notebooks from 1930, written in a long-forgotten German shorthand, that show his way to the results: his first ideas, how they evolved, and how the jewel-like final presentation in his famous publication On formally undecidable propositions was composed.The book also contains the original version of Gödel’s incompleteness article, as handed in for publication with no mentioning of the second incompleteness theorem, as

well as six contemporary lectures and seminars Gödel gave between 1931 and 1934 in Austria, Germany, and the United States. The lectures are masterpieces of accessible presentations of deep scientific results, readable even for those without special mathematical training, and published here for the first time.

Logical Dilemmas John Dawson 2005-06-06 This authoritative biography of Kurt Goedel relates the life of this most important logician of our time to the development of the field. Goedel's seminal achievements that changed the perception and foundations of mathematics are explained in the context of his life from the turn of the century Austria to the Institute for Advanced Study in Princeton.

Foundations of mathematics: symposium papers commemorating the sixtieth birthday of Kurt Godel, ed Jack J. Bulloff

Kurt Gödel and the Foundations of Mathematics Matthias Baaz 2014-03-27 This volume commemorates the life, work, and foundational views of Kurt Gödel (1906-1978), most famous for his hallmark works on the completeness of first-order logic, the incompleteness of number theory, and the consistency - with the other widely accepted axioms of set theory - of the axiom of choice and of the generalized continuum hypothesis. It explores current research, advances, and ideas for future directions not only in the foundations of mathematics and logic, but also in the fields of computer science, artificial intelligence, physics, cosmology, philosophy, theology, and the history of science. The discussion is supplemented by personal reflections from several scholars who knew Gödel personally, providing some interesting insights into his life. By putting his ideas and life's work into the context of current thinking and perceptions, this book will extend the impact of Gödel's fundamental work in mathematics, logic, philosophy, and other disciplines for future generations of researchers.

Practical Foundations of Mathematics Paul Taylor 1999-05-13 This book is about the basis of mathematical reasoning both in pure mathematics itself (particularly algebra and topology) and in computer science (how and what it means to prove correctness of programs). It contains original material and original developments of standard material, so it is also for professional researchers, but as it deliberately transcends disciplinary boundaries and challenges many established attitudes to the foundations of mathematics, the reader is expected to be open minded about these things.

Phenomenology, Logic, and the Philosophy of Mathematics Richard L. Tieszen 2005-06-06 In this 2005 book, logic, mathematical knowledge and objects are explored alongside reason and intuition in the exact sciences.

Journey to the Edge of Reason Stephen Budiansky 2021-05-11 A remarkable account of the brilliant, troubled mathematician and philosopher Kurt Gödel. From his famous Incompleteness Theorem, which shook the foundations of mathematical truth, to his perilous escape from Nazi Vienna, this book weaves together his creative genius, mental illness, and idealism in the face of adversity.

Foundations of Mathematics Jack John Bulloff 2012-12-06 Dr. KURT GODEL'S sixtieth birthday (April 28, 1966) and the thirty fifth anniversary of the publication of his theorems on undecidability were celebrated during the 75th Anniversary Meeting of the Ohio Ac ademy of Science at The Ohio State University, Columbus, on April 22, 1966. The celebration took the form of a Festschrift Symposium on a theme supported by the late Director of The Institute for Advanced Study at Princeton, New Jersey, Dr. J. ROBERT OPPENHEIMER: "Logic, and Its Relations to Mathematics, Natural Science, and Philosophy." The symposium also celebrated the founding of Section L (Mathematical Sciences) of the Ohio Academy of Science. Salutations to Dr. GODEL were followed by the reading of papers by S. F. BARKER, H. B. CURRY, H. RUBIN, G. E. SACKS, and G. TAKEUTI, and by the announcement of in-absentia papers contributed in honor of Dr. GODEL by A. LEVY, B. MELTZER, R. M. SOLOVAY, and E. WETTE. A short discussion of "The II Beyond Godel's I" concluded the session.

Kurt Gödel: Collected Works: Volume I Kurt Gödel 1986-05-22 Kurt Gödel (1906 - 1978) was the most outstanding logician of the twentieth century, famous for his hallmark works on the completeness of logic, the incompleteness of number theory, and the consistency of the axiom of choice and the continuum hypothesis. He is also noted for his work on constructivity, the decision problem, and the foundations of computability

theory, as well as for the strong individuality of his writings on the philosophy of mathematics. He is less well known for his discovery of unusual cosmological models for Einstein's equations, in theory permitting time travel into the past. The Collected Works is a landmark resource that draws together a lifetime of creative thought and accomplishment. The first two volumes were devoted to Gödel's publications in full (both in original and translation), and the third volume featured a wide selection of unpublished articles and lecture texts found in Gödel's Nachlass. These long-awaited final two volumes contain Gödel's correspondence of logical, philosophical, and scientific interest. Volume IV covers A to G, with H to Z in volume V; in addition, Volume V contains a full inventory of Gödel's Nachlass. L All volumes include introductory notes that provide extensive explanatory and historical commentary on each body of work, English translations of material originally written in German (some transcribed from the Gabelsberger shorthand), and a complete bibliography of all works cited. Kurt Gödel: Collected Works is designed to be useful and accessible to as wide an audience as possible without sacrificing scientific or historical accuracy. The only comprehensive edition of Gödel's work available, it will be an essential part of the working library of professionals and students in logic, mathematics, philosophy, history of science, and computer science and all others who wish to be acquainted with one of the great minds of the twentieth century.

The Legacy of Kurt Schütte Reinhard Kahle 2020-08-10 This book on proof theory centers around the legacy of Kurt Schütte and its current impact on the subject. Schütte was the last doctoral student of David Hilbert who was the first to see that proofs can be viewed as structured mathematical objects amenable to investigation by mathematical methods (metamathematics). Schütte inaugurated the important paradigm shift from finite proofs to infinite proofs and developed the mathematical tools for their analysis. Infinitary proof theory flourished in his hands in the 1960s, culminating in the famous bound Γ0 for the limit of predicative mathematics (a fame shared with Feferman). Later his interests shifted to developing infinite proof calculi for impredicative theories. Schütte had a keen interest in advancing ordinal analysis to ever stronger theories and was still working on some of the strongest systems in his eighties. The articles in this volume from leading experts close to his research, show the enduring influence of his work in modern proof theory. They range from eye witness accounts of his scientific life to developments at the current research frontier, including papers by Schütte himself that have never been published before.

In the Light of Logic Solomon Feferman 1998 Solomon Feferman is one of the leading figures in logic and the foundations of mathematics. This volume brings together a selection of his most important essays dealing with the light which results in modern logic cast on significant problems in the foundations of mathematics. It is essential reading for anyone interested in these subjects. Feferman presents key issues in the work of Cantor, Hilbert, Weyl, and Godel among others, and explains how they are dealtwith by proof theory and other parts of logic. A number of the papers appeared originally in obscure places and are not well-known, and others are published here for the first time. All of the material has been revised and annotated to bring it up to date.

After Gödel Richard L. Tieszen 2011-05-05 Richard Tieszen analyzes, develops, and defends the writings of Kurt Gödel (1906-1978) on the philosophy and foundations of mathematics and logic. Gödel's relation to the work of Plato, Leibniz, Husserl, and Kant is examined, and a new type of platonic rationalism that requires rational intuition, called 'constituted platonism', is proposed.

Godel's Disjunction Leon Horsten 2016-09-28 The logician Kurt Godel in 1951 established a disjunctive thesis about the scope and limits of mathematical knowledge: either the mathematical mind is not equivalent to a Turing machine (i.e., a computer), or there are absolutely undecidable mathematical problems. In the second half of the twentieth century, attempts have been made to arrive at a stronger conclusion. In particular, arguments have been produced by the philosopher J.R. Lucas and by the physicist and mathematician Roger Penrose that intend to show that the mathematical mind is more powerful than any computer. These arguments, and counterarguments to them, have not convinced the logical and philosophical community. The reason for this is an

insufficiency if rigour in the debate. The contributions in this volume move the debate forward by formulating rigorous frameworks and formally spelling out and evaluating arguments that bear on Godel's disjunction in these frameworks. The contributions in this volume have been written by world leading experts in the field.

Foundations of mathematics. Symposium papers commemorating the sixtieth birthday of Kurt Gödel. Edited by Jack J. Bulloff, Thomas C. Holyoke, S.W. Hahn Kurt GOEDEL 1969

Bemerkungen Über Die Grundlagen Der Mathematik Ludwig Wittgenstein 1972

Set Theory and the Continuum Hypothesis Paul J. Cohen 2008-12-09 This exploration of a notorious mathematical problem is the work of the man who discovered the solution. Written by an award-winning professor at Stanford University, it employs intuitive explanations as well as detailed mathematical proofs in a self-contained treatment. This unique text and reference is suitable for students and professionals. 1966 edition. Copyright renewed 1994.

Incompleteness: The Proof and Paradox of Kurt Gödel (Great Discoveries) Rebecca Goldstein 2006-02-17 "A gem...An unforgettable account of one of the great moments in the history of human thought." —Steven Pinker Probing the life and work of Kurt Gödel, Incompleteness indelibly portrays the tortured genius whose vision rocked the stability of mathematical reasoning—and brought him to the edge of madness.

Gödel '96 Petr Hájek 2016 Proceedings of the conference 'Logical Foundations of Mathematics, Computer Science, and Physics - Kurt Gödel's Legacy', held in 1996

Kurt Gödel Francisco Rodriguez-Consuegra 1995-12-01 Kurt Gödel, together with Bertrand Russell, is the most important name in logic, and in the foundations and philosophy of mathematics of this century. However, unlike Russel, Gödel the mathematician published very little apart from his well-known writings in logic, metamathematics and set theory. Fortunately, Gödel the philosopher, who devoted more years of his life to philosophy than to technical investigation, wrote hundreds of pages on the philosophy of mathematics, as well as on other fields of philosophy. It was only possible to learn more about his philosophical works after the opening of his literary estate at Princeton a decade ago. The goal of this book is to make available to the scholarly public solid reconstructions and editions of two of the most important essays which Gödel wrote on the philosophy of mathematics. The book is divided into two parts. The first provides the reader with an incisive historico-philosophical introduction to Gödel's technical results and philosophical ideas. Written by the Editor, this introductory apparatus is not only devoted to the manuscripts themselves but also to the philosophical context in which they were written. The second contains two of Gödel's most important and fascinating unpublished essays: 1) the Gibbs Lecture ("Some basic theorems on the foundations of mathematics and their philosophical implications", 1951); and 2) two of the six versions of the essay which Gödel wrote for the Carnap volume of the Schilpp series The Library of Living Philosophers ("Is mathematics syntax of language?", 1953-1959).

Kurt Gödel and the Foundations of Mathematics Matthias Baaz 2011-06-06 This volume commemorates the life, work and foundational views of Kurt Gödel (1906–78), most famous for his hallmark works on the completeness of first-order logic, the incompleteness of number theory, and the consistency - with the other widely accepted axioms of set theory - of the axiom of choice and of the generalized continuum hypothesis. It explores current research, advances and ideas for future directions not only in the foundations of mathematics and logic, but also in the fields of computer science, artificial intelligence, physics, cosmology, philosophy, theology and the history of science. The discussion is supplemented by personal reflections from several scholars who knew Gödel personally, providing some interesting insights into his life. By putting his ideas and life's work into the context of current thinking and perceptions, this book will extend the impact of Gödel's fundamental work in mathematics, logic, philosophy and other disciplines for future generations of researchers.

Godel's Proof Ernest Nagel 2012-11-12 The first book to present a readable explanation of Godel's theorem to both scholars and non-specialists, this is a gripping combination of science and accessibility, offering those with a taste for logic and philosophy the chance to satisfy

their intellectual curiosity.

Kurt Godel and the Foundations of Mathematics Matthias Baaz 2011 This volume commemorates the life, work and foundational views of Kurt Gödel (1906-1978), most famous for his hallmark works on the completeness of first-order logic, the incompleteness of number theory, and the consistency - with the other widely accepted axioms of set theory - of the axiom of choice and of the generalized continuum hypothesis. It explores current research, advances and ideas for future directions not only in the foundations of mathematics and logic, but also in the fields of computer science, artificial intelligence, physics, cosmology, philosophy, theology and the history of science. The discussion is supplemented by personal reflections from several scholars who knew Gödel personally, providing some interesting insights into his life. By putting his ideas and life's work into the context of current thinking and perceptions, this book will extend the impact of Gödel's fundamental work in mathematics, logic, philosophy and other disciplines for future generations of researchers.