



Love and Math: The Heart of Hidden Reality

By Edward Frenkel

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What if you had to take an art class in which you were only taught how to paint a fence? What if you were never shown the paintings of van Gogh and Picasso, weren't even told they existed? Alas, this is how math is taught, and so for most of us it becomes the intellectual equivalent of watching paint dry.

In *Love and Math*, renowned mathematician Edward Frenkel reveals a side of math we've never seen, suffused with all the beauty and elegance of a work of art. In this heartfelt and passionate book, Frenkel shows that mathematics, far from occupying a specialist niche, goes to the heart of all matter, uniting us across cultures, time, and space.

Love and Math tells two intertwined stories: of the wonders of mathematics and of one young man's journey learning and living it. Having braved a discriminatory educational system to become one of the twenty-first century's leading mathematicians, Frenkel now works on one of the biggest ideas to come out of math in the last 50 years: the Langlands Program. Considered by many to be a Grand Unified Theory of mathematics, the Langlands Program enables researchers to translate findings from one field to another so that they can solve problems, such as Fermat's last theorem, that had seemed intractable before.

At its core, *Love and Math* is a story about accessing a new way of thinking, which can enrich our lives and empower us to better understand the world and our place in it. It is an invitation to discover the magic hidden universe of mathematics.

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Love and Math: The Heart of Hidden Reality By Edward Frenkel Bibliography

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Editorial Review

From Publishers Weekly

U.C. Berkley mathematician Frenkel reveals the joy of pure intellectual discovery in this autobiographical story of determination, passion, and the Langlands program—a sort of Grand Unified Field Theory of mathematics. As a teenager Frenkel was converted from math hater to eager theorist by a mathematical friend of the family, enough to pursue it despite his struggles against an unapologetically anti-Semitic Soviet educational system. Frenkel writes casually of climbing over the fence to sit in on advanced classes at Moscow State University, a top school that didn't accept Jews. With the help of mentors, he worked hard and eventually found his way to Harvard and the freedom to focus on his research. Frenkel balances autobiographical narrative with enthusiastic discussions of his own work on the Langlands program, a web of algebraic conjectures named after a Canadian mathematician that is noted for its usefulness in organizing seemingly chaotic data into regular patterns full of symmetry and harmony, and its applications to quantum theory. While the math can be heavy going, Frenkel's gusto will draw readers into his own quest, pursuing the deepest realities of mathematics as if it were a giant jigsaw puzzle, in which no one knows what the final image is going to look like. B&w illus. (Oct.)

From [Booklist](#)

After Rick and Isla meet at a dinner party and fall in love, what's next? For Frenkel, it is the mathematical charting of the Rick-Isla relationship as a trajectory on the x-y plane. The surprising notion of a "formula of love" fits into the remarkable understanding of math Frankel unfolds as he recounts his labors on conceptual frontiers where an audacious new master theory, the Langlands Program, is linking geometry, number theory, and algebra. To qualify for a role in those labors, Frenkel defied the anti-Semitism pervading the Soviet academic world in which he came of age and then won appointment to a Harvard professorship. Aware that few of his readers share his academic training, Frenkel pares the technical details to a minimum as he reflects on the platonic transcendence of mathematical concepts and marvels at their mysterious utility in explaining physical phenomena. Not merely dry formulas in textbooks, the math Frenkel celebrates fosters freedom and, yes, even distills the essence of love. A breathtaking personal and intellectual odyssey. --Bryce Christensen

Review

A *New York Times* Science Bestseller

"Powerful, passionate and inspiring."

—*New York Times*

"[Frenkel's] winsome new memoir... is three things: a Platonic love letter to mathematics; an attempt to give the layman some idea of its most magnificent drama-in-progress; and an autobiographical account, by turns inspiring and droll, of how the author himself came to be a leading player in that drama."

—*New York Review of Books*

"With every page, I found my mind's eye conjuring up a fictional image of the book's author, writing by candlelight in the depths of the Siberian winter like Omar Sharif's Doctor Zhivago in the David Lean movie adaptation of Pasternak's famous novel. *Love and Math* is Edward Frenkel's *Lara* poems... As is true for all the great Russian novels, you will find in Frenkel's tale that one person's individual story of love and overcoming adversity provides both a penetrating lens on society and a revealing mirror into the human

mind.”

—**Keith Devlin, *Huffington Post***

“Frenkel writes that math ‘directs the flow of the universe.’ It’s as elegant as music and as much a part of our intellectual heritage as literature. He strives to awaken our wonder by taking us on [a] tour of his research, in which he reveals a ‘hidden’ world few of us encountered in school... Frenkel aims to make it understandable, even beautiful.”

—***New York Times Book Review***

“Two fascinating narratives are interwoven in *Love and Math*, one mathematical, the other personal... Frenkel deftly takes the reader ... to the far reaches of our current understanding. He seeks to lay bare the beauty of mathematics for everyone. As he writes, ‘There is nothing in this world that is so deep and exquisite and yet so readily available to all.’”

—***Nature***

“Reasoning that some of us are unwilling to engage with maths because we cannot see it, Professor Frenkel relates it tirelessly to things we can. A colourful paean to numbers.”

—***The Guardian***

(UK)

“Edward Frenkel mounts a passionate case against math’s reputation as an arcane and boring field [and] argues for math’s beauty and relevance.”

—**Page-Turner blog, *The New Yorker***

“Part ode, part autobiography, *Love and Math* is an admirable attempt to lay bare the beauty of numbers for all to see.”

—***Scientific American***

“The words love and math aren’t usually uttered in the same breath. But mathematician Edward Frenkel is on a mission to change that...[in his] book, ‘Love and Math’ [in which] the tenured professor at the University of California at Berkeley argues that the boring way that math is traditionally taught in schools has led to a widespread ignorance that may have even been responsible for the recession... [the] book tells his personal story and goes on to describe his research in the Langlands program, as well as recent mathematical discoveries that aren’t regularly taught in classrooms.”

—***Wall Street Journal***

“Edward Frenkel's book *Love and Math* is, quite simply, a love story, one man's declaration of his love for, and romantic description of, the mistress that destiny assigned him. If I had to sum up the book in one word, that word would be passion. The romantic prose, at times poetic, the broad sweep of deep and profound human ideas, and the eternal nature of fundamental questions that continually re-emerge under new disguises, cannot help but bring to mind the great Russian novels of Dostoyevsky, Pasternak, Sholokhov, and all the rest.”

—***Huffington Post***

“An eye-opening, awe-inspiring, surprisingly accessible testimonial about the journey of one man and the beauty of mathematics.”

—***Barnes and Noble***

“Frenkel pares the technical details to a minimum as he reflects on the platonic transcendence of

mathematical concepts and marvels at their mysterious utility in explaining physical phenomena. Not merely dry formulas in textbooks, the math Frenkel celebrates fosters freedom and, yes, even distills the essence of love. A breathtaking personal and intellectual odyssey.”

—**Booklist**

“Fascinating... By using analogies, [Frenkel] describes concepts such as symmetries, dimensions, and Riemann surfaces in a way that will enable nonmathematicians to understand them. Whether or not readers develop a love for math, they will get a glimpse of the love that Frenkel has for the subject. Recommended for all readers, math whizzes or not, inclined to be interested in the subject.”

—**Library Journal**

“Frenkel reveals the joy of pure intellectual discovery in this autobiographical story of determination, passion, and the Langlands program... Frenkel’s gusto will draw readers into his own quest, pursuing the deepest realities of mathematics as if it were ‘a giant jigsaw puzzle, in which no one knows what the final image is going to look like.’”

—**Publishers Weekly**

“A fascinating peek into the author’s life and work.”

—**Kirkus Reviews**

“If you’re not a mathematician this book might make you want to become one. And if you are a mathematician you will feel better about your profession.”

—**Nassim Nicholas Taleb, author of *The Black Swan* and *Antifragile***

“I don’t know if I’ve ever used the words love and math together, but this book changed that. In the tradition of his heroes Andre Weil and C. N. Yang, Edward Frenkel writes of the objective beauty of numbers. Like musical notes, they exist apart from the mind, daring us to fathom their depths and assemble them in arcane narratives that tell the story of us. Reading this book, one is compelled to drop everything and give math another try; to partake of the ultimate mystery.”

—**Chris Carter, creator of *The X-Files***

“Edward Frenkel’s riveting new book made this former math phobe fall for a subject I thought I hated. He worships math with a passion so contagious, you’ll be swept away—by both the subject and Frenkel’s remarkable journey. When the USSR tried to block him from university based on his Jewish surname, he literally scaled twenty-foot fences to steal into classes. Before age 21, a letter from Harvard invited him to teach, launching a career that includes writing and starring in an erotic film paying homage to Yukio Mishima, *Rites of Love and Math*. Frenkel’s charisma is undeniable. A YouTube video of one Berkeley lecture has over 250,000 views. Not since G.H. Hardy’s *Mathematician’s Apology* has one of the field’s finest minds clarified the metaphysical beauty of this misunderstood field of inquiry. Math underpins our culture’s economy, medical and technological advances, and thought itself. Frenkel’s call for math literacy might have staved off our recent economic crisis. This book is not just a love song for a subject and a battle cry for educational reform, it’s literary pleasure at its freshest.”

—**Mary Karr, bestselling author of *The Liars’ Club*, *Cherry*, and *Lit***

“*Love and Math* = fast-paced adventure story + intimate memoir + insider’s account of the quest to decode a Rosetta Stone at the heart of modern math. It all adds up to a thrilling intellectual ride—and a tale of surprising passion.”

—**Steven Strogatz, Schurman Professor of Applied Mathematics, Cornell University, and author of *The Joy of x***

“Through his fascinating autobiography, mathematician Edward Frenkel is opening for us a window into the ambitious Langlands Program—a sweeping network that interconnects many branches of mathematics and physics. A breathtaking view of modern mathematics.”

—**Mario Livio, astrophysicist, and author of *The Golden Ratio and Brilliant Blunders***

“This very readable, passionately written, account of some of the most exciting ideas in modern mathematics is highly recommended to all who are curious lovers of beauty.”

—**David Gross, Nobel Laureate in Physics**

“A marvelous and arresting account of the struggles, the joys, the passions of a mathematician. In this thrilling account of how Frenkel overcame the bleak anti-Semitism in his early schooling in Moscow to contribute to the grand goals of his subject, he makes the palette of mathematical ideas vivid to us by calling upon things as diverse as his mother’s recipe for borscht (to explain the flavor of quantum duality) and imagined screenplays (to offer hints of the Langlands Program).”

—**Barry Mazur, University Professor, Harvard University, and author of *Imagining Numbers***

“While you might think of Edward Frenkel as that mathematician who made that erotic film about math, actually you should know him as the guy who’s going to help you see through your anxieties and perceive your world more deeply. *Love and Math* is an autobiography, a portal to understanding previously fearsome math, and the first popular account of the Langlands Program, which is one of the central creative projects of humanity at this time. This book is about knowing reality as fundamentally as possible on every level.”

—**Jaron Lanier, author of *You Are Not a Gadget and Who Owns the Future?***

Users Review

From reader reviews:

Lois Reyna:

Information is provisions for people to get better life, information presently can get by anyone with everywhere. The information can be a knowledge or any news even a huge concern. What people must be consider when those information which is from the former life are challenging to be find than now's taking seriously which one would work to believe or which one the particular resource are convinced. If you get the unstable resource then you get it as your main information we will see huge disadvantage for you. All of those possibilities will not happen with you if you take *Love and Math: The Heart of Hidden Reality* as the daily resource information.

Morris Whitfield:

This book untitled *Love and Math: The Heart of Hidden Reality* to be one of several books which best seller in this year, this is because when you read this guide you can get a lot of benefit on it. You will easily to buy this kind of book in the book retail store or you can order it by means of online. The publisher with this book sells the e-book too. It makes you quickly to read this book, since you can read this book in your Smartphone. So there is no reason for your requirements to past this guide from your list.

Roxanne Mazon:

The actual book *Love and Math: The Heart of Hidden Reality* has a lot of info on it. So when you read this book you can get a lot of gain. The book was compiled by the very famous author. Mcdougal makes some research previous to write this book. This kind of book very easy to read you may get the point easily after scanning this book.

Jeffery Harman:

Your reading 6th sense will not betray a person, why because this *Love and Math: The Heart of Hidden Reality* book written by well-known writer whose to say well how to make book that can be understand by anyone who else read the book. Written inside good manner for you, dripping every ideas and writing skill only for eliminate your own personal hunger then you still uncertainty *Love and Math: The Heart of Hidden Reality* as good book not merely by the cover but also with the content. This is one book that can break don't evaluate book by its deal with, so do you still needing one more sixth sense to pick this kind of!? Oh come on your studying sixth sense already said so why you have to listening to an additional sixth sense.

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