

Summary for: love and math book by edward frenkel

[Science](#), [Mathematics](#)



Summary for: love and Math book by Edward Frenkel The book Love and Math by Edward Frenkel portrays a distinct side of math that has not been explored. The book reveals mathematics as a beauty and elegant work of art that can be demonstrated in a diverse manner. Frenkel's book is passionate on the discipline of mathematics, as it occupies a special niche uniting people from different space, time and culture. Love and math are words that are rarely used together, but Frenkel tries to bridge the gap to demonstrate his passion. Edward Frenkel is a mathematician focusing on mathematics physics, representation theory, and algebraic geometry. In the book Love and Math, Frenkel shows the passion and popular appetite he has towards math. Love is usually used to express feeling towards a person, but in the book, Frenkel focuses on math. Frenkel provides an explanation of what it feels like to love math, pursuing it deeply and doing it at the highest level (Frenkel, 12). Edward Frenkel is a mathematics professor at the University of California, Berkeley, hence demonstrating the experience he has in the field. The aim of the paper is to focus on the summary of Love and Math by Edward Frenkel. The book is essentially a memoir for it recounts the career of Edward Frenkel that starts from a small city in Russia. In his childhood, Frenkel lived in Kolomna, a small city in Russia where he studied higher mathematics privately, although he had interest in quantum physics. He provides a detailed account on how he came to love math, his challenges in the soviet system that was anti-Semitism, and how he eventually came to the United States starting a successful academic career at Harvard. In the book, Love and Math, Frenkel largely presents two entwined stories of mathematics wonders and a journey of an individual living and learning it.

According to the book, Frenkel has managed to become one of the leading mathematicians of the twenty first century, although going through a discriminatory education system in the former Soviet Union (Frenkel, 26). The struggles he has gone through have strengthened Frenkel in the quest of attaining the set objectives in the field of mathematics. This has given Frenkel the needed skills and knowledge to pursue one of the significant ideas to be formulated in the discipline of mathematics in the last 50 years, which is referred to as the Langlands Program. The program is regarded as one of the most important theories in mathematics for it aids researchers to solve problems by interpreting outcomes from one field to another, for example, Fermat's last theorem, which seemed obstinate before. In the book, *Love and Math*, Frenkel explores a new way of thinking that can enrich and empower individuals in understanding the globe better. The author provides a detailed description of the magic hidden in the discipline of mathematics to be used in solving problems. The passion he has on math has made him to attain and teach the highest levels of education regardless of the challenges experienced. This encourages individuals in the society to have a negative attitude towards math or hindered at attaining their set goals. In the book, Frenkel demonstrates the vibrant mathematical culture that existed in the former Soviet Union, although isolated and different from the west. The talented people had marginal positions in the academic field, and the passion of the subject in the community rather than career played a key role in its development. This acted as the pillar background for Frenkel in depicting his passion of the discipline throughout the book. Frenkel moving to the west played a great part in transforming his opinions and ideas hence

an advantage in exploiting the existing opportunities in the mathematics discipline. This enables Frenkel to explain his insights on mathematics to a wide segment of the society due to the experience earned. The author offers enlightening explanations on challenging topics of mathematical sophistication at different levels (Frenkel, 103). In the book, *Love and Math*, Frenkel ventures into a remarkable discipline of exploring one of the significant aspects of mathematics regarding Langlands program. The ideas have fascinated mathematicians for a long period and through Frenkel expository articles, it has proved beneficial in earning the needed knowledge and skills. The book integrates different aspects of mathematics, for instance, number theory. According to Frenkel (119), number theory consists of rational numbers like rational functions on a space, as well as the space of primes. Eventually, through the aspects an individual is able to interact with all types of parallels in the study of number theory and Riemann surfaces. In the book, *Love and Math*, Frenkel further explores geometric Langlands theory, which involves the transposition of the number theory to the essential Langlands program. This leads to the establishment of a new discipline in mathematics that is related significantly to the quantum field theory. The book explores discussions of discoveries through linking quantum field theory in four dimensions to the fundamental Langlands duality and discoveries by Witten. It is evident that Frenkel is the ideal individual to explore the aspects for he is involved in the developments. The book is inspiring and provides crucial aspects for non-mathematicians to gain the significance of math in solving real life problems. Work cited Frenkel,

Edward. Love and Math: The Heart of Hidden Reality. New York: Perseus-Basic Books, 2013, 1-280