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# Origami Design Secrets: Mathematical Methods for an Ancient Art

Robert J. Lang

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**Robert J. Lang : Origami Design Secrets: Mathematical Methods for an Ancient Art** before purchasing it in order to gauge whether or not it would be worth my time, and all praised Origami Design Secrets: Mathematical Methods for an Ancient Art:

4 of 4 people found the following review helpful. The designs in here are beautiful, I am always amazed at the level of ...By BDagelI bought this book for my 14 year old son, who has been folding origami for 7 years. Long past are the days I can be of help to him when he gets stumped on a design. He originally found it in our library years ago and proceeded to check it out so many times, I often wondered if I \*had\* bought it! After becoming more advanced, he now understands more of the writing in the book, i.e., the math and design discussions. The designs in here are beautiful, I am always amazed at the level of detail. He is currently trying the cuckoo clock but it's slow going as it's a very intricate design. He thoroughly enjoys this book and Mr. Lang is one of his origami heroes.3 of 3 people found the following review helpful. A lot of people have probably reviewed this famous book ...By Steve LA lot of people

have probably reviewed this famous book favorably. It is eye opening. Learning how to fold a complicated origami figure is already a thrill but having a chance to develop insight into the design of these figures is not something that I have noticed to be available from other sources. The author provides a computer program to help and even describes a physical method to simulate what can be done on the computer. The author is famous for having created some of the most complex, realistic origami figures and the book includes instructions for how to do them. 3 of 3 people found the following review helpful. Lang knocks it out of the park with this book! By OrigamiPyro One of my favorite origami books hands down. The diagrams are few but the clock makes it worth it alone... This is the best teaching book I have ever read that goes into great detail on the art of folding to create your own models. It is more of a text book and it does go into mathematical details, which as an engineer I found very interesting, but it also stays simple so most can follow. This is a must have to anyone looking to start working on their own designs. Lang is among the best

Robert J. Lang, one of the world's foremost origami artists and scientists, presents the never-before-described mathematical and geometric principles that allow anyone to design original origami, something once restricted to an elite few. From the theoretical underpinnings to detailed step-by-step folding sequences, this book takes a modern look at the centuries-old art of origami.

" finally, the secrets of an origami master are revealed! It feels like Lang has taken you on as an apprentice as he teaches you his techniques, stepping you through examples of real origami designs and their development. -Erik Demaine, October 2003 Robert J. Lang, author of *Origami Design Secrets: Mathematical Methods for an Ancient Art*, was featured as part of a recent article in the Science section of the New York Times. -New York Times, June 2004 For most origami enthusiasts, the ancient Japanese art of folding and making creases is a mere hobby, and a grand pursuit for those giddily obsessed with the mathematics (or aesthetics) of how mere paper can be contorted into objects of beauty and interest. For Robert J. Lang, however, origami has become a life's pursuit. . . -Chad Berndtson, *The Patriot Ledger*, November 2004 ""There is something for everyone here, whether beginner or expert, left-brained or right, specialist or dilettante."" -Gail Anderson, *Engineering Science*, April 2003 ""This magisterial work, splendidly produced, covers all aspects of the art and science."" -SIAM Book, November 2004 ""Origami may seem an unusual route to a prestigious university job, but most things about Dr. Erik Demaine defy academic norms."" -Margaret Wertheim, *The New York Times*, February 2005 Young Scientist Sees Origami as the Shape of Things to Come - Margaret Wertheim, *The New York Times*, February 2005 ""This book is a synthesis of origami technique, history, and instructions, with very thoughtful and clear explanations for almost every aspect of the art of folding and designing origami."" -Sarah Gourlie, *Math Horizons*, January 2006 When Robert J. Lang, a laser physicist, talks with passion about origami the Japanese art of paper folding the line between play and discovery also completely dissolves. Mr. Lang is what might be called an origamist (see [www.langorigami.com](http://www.langorigami.com)). He wrote the book ""*Origami Design Secrets: Mathematical Methods for an Ancient Art*"" (AK Peters, 2003) and has created tarantulas, delicate herons, 12-spined shells and big-horned elk out of single, uncut, folded sheets of paper. -Edward Rothstein, *The New York Times*, April 2006 Susan Orlean profiles Robert J. Lang in ""*The Origami Lab: Why a physicist dropped everything for paper folding*"" ""The first part of his plan was to write the book he'd been contemplating while still at JDS Uniphase -- *Origami Design Secrets*, which was published in 2003 and lays out the underlying principles of origami and design techniques."" -Susan Orlean, *The New Yorker*, February 2007 The Times Magazine asked 10 artists to design ""green"" flags to illustrate Thomas L. Friedman's cover story. Here's how origami artist Robert J. Lang created his flag. -*The New York Times Magazine*, April 2007 ""Now meet Robert Lang. When he folds paper, he doesn't just make objects, he creates art. He's able to see paper differently than the rest of us."" Watch the video from CBS Sunday Morning -CBS Morning News, May 2007 ""Through the years I was a professional physicist, I found that the tools I had learned doing physics and engineering the mathematics and the approach to breaking down problems and studying the underlying theory could be applied to origami as well. So that helped me to develop my origami art to a fairly high level. ""*Cabinet*, Issue 17 -Margaret Wertheim, May 2005 ""Lang chose to strike a balance between a book that describes origami design algorithmically and one that appeals to the origami community. . . . For mathematicians and origamists alike, Lang's expository approach introduces the reader to technical aspects of folding and the mathematical models with clarity and good humor. . . . *Origami Design Secrets* . . . is highly recommended for mathematicians and students alike who want to view, explore, wrestle with open problems in, or even try their own hand at the complexity of origami model design."" -Thomas C. Hull, *The Mathematical Intelligencer*, March 2005 Robert Lang Sheds Light on the Math That Underlies Origami: See the link above for an article about Robert Lang's MAA Carriage House lecture ""*From Flapping Birds to Space Telescopes*,"" including links to an interview with Robert Lang and an audio file of the lecture. -MAA Online, July 2009 ""From the Publisher Origami novices will appreciate the organization of the book, which begins with basic techniques and progresses to deep and powerful tools for design, all based on simple, intuitive concepts like grafting, circle packing, and assembly of tiles. Both novices and aficionados will find detailed step-by-step instructions for previously unpublished models, including the famous "Black Forest Cuckoo Clock." About the Author Robert J. Lang is recognized as one of the foremost origami artists in the world as well as the

pioneer in computational origami and the development of formal design algorithms for folding. With a Ph.D. in Applied Physics from Caltech, he is currently a full-time artist and consultant on origami and its applications to engineering problems. His career and work have been featured in The New York Times Magazine, The New Yorker, and the New York Times. [www.langorigami.com](http://www.langorigami.com)