

# The Manual of Mathematical Magic



Mathematics and magic may seem a strange combination, but many of the most powerful magical effects performed today have a mathematical basis. Famous magicians such as Derren Brown and David Blaine use mathematics-based tricks in their shows, but mathematics is also the secret behind the technologies we use, the products we buy and the jobs we will have. Mathematics is the language we use to describe the world around us - it's the basis of all the sciences.

This book will show you how to perform some magical miracles to impress and entertain your friends. But it will also explain the mathematics behind the tricks and how that same mathematics is used in the real world. It also looks at the varied and exciting sorts of jobs that make use of the mathematics powering your magic.

All the tricks in this book are self-working, which means you don't need to know any clever sleight of hand, like dealing cards from the bottom of a deck. But be warned: knowing the mathematical secret isn't the same as being able to perform the tricks well. To do that, you need to use your performance skills to create a sense of wonder. A good presentation is where your audience is pulled into the magic happening and astonishment happens. With an imaginative story, you can take a simple mathematical trick and turn it into a jaw-dropper.

This book will give you some ideas for presentations, but be creative, come up with your own way. Thinking creatively about new ways to solve problems is the key to good magic but it's also one of the key skills of a good mathematician and one of the useful employment skills you get from being good at mathematics. As we will see, many famous mathematicians were also magicians. It's not a coincidence - they enjoyed their maths, and also enjoyed using it to entertain. And now you can too.

As you start to work your way through this book, you will find magic that uses a whole range of mathematical ideas that you may already have come across, from simple addition and subtraction, to prime numbers, geometry, algebra and statistics. We hope that this book shows that all of maths can be exciting, magical and useful. There is even an advanced section where some maths that's probably new to you is introduced, with stunning magic results. So have some serious fun, learn, practice, create and above all entertain.