Book name: Murderous Maths, Do you feel lucky?

Author: Kjartan Poskitt

Publisher: Scholastic

What is this book about?

This book is about Pascal's triangle. It talks about the history of the Pascal's triangle, how to draw it and explain why those numbers are special.

About the Pascal's triangle:

Pascal's triangle is named after a French mathematician ,Blaise Pascal , wrote a *Treatise on the Arithmetical Triangle*. But Pascal was not the first to draw out this triangle or to notice its amazing properties.

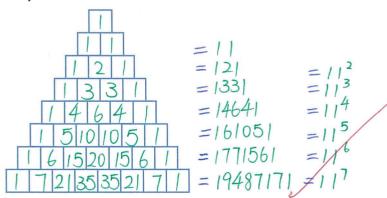
Long before Pascal, the earliest explicit depictions of a triangle of binomial coefficients occur in the 10th century in commentaries on the Chandas Shastra, a book by Pingala written between the 5th and 2nd century BC.

How to draw a Pascal's triangle?

To draw the triangle, first write "1" at the top. Then ,continue placing numbers below it in a triangular pattern. Each number is the two numbers above it added together. But except the edges, the edges are all the number, 1.

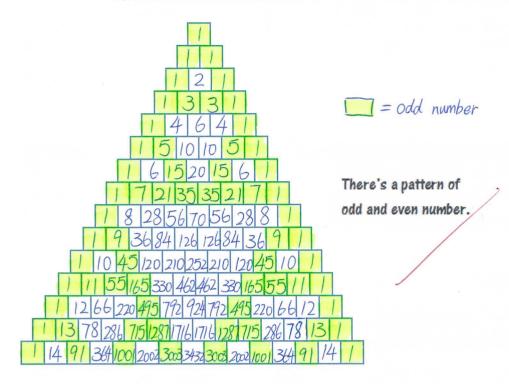
What's special about this triangle?

Exponents of 11



Each line is also the power of II

The odd and even number



Tail and head

Pascal's triangle can tell you how many ways heads and tails can combine.

(H=head, T=tail)

Eg: If a coin is tossed 4 times, the possible combinations are:

нннн

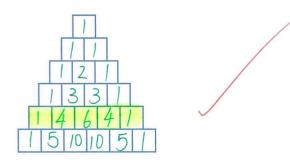
тини, итин, инти, инит

ТТИН, ТИТИ, ТИНТ, ИТИТ, ИТТИ, ИНТТ

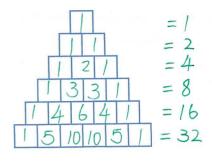
HTTT, THTT, TTHT, TTTH

TTTT

The pattern of it is: 1,4,6,4,1. And that's exactly the numbers of row 5.



The sum of each row



There is a pattern. The sum of each row is doubled.

Diagonals (example on the right):

The second diagonal are counting numbers, eg: 1,2,3,4, etc.

The third diagonal are triangular numbers

* triangular numbers mean obtained by continued summation of the natural numbers

Eg: 1,3,6,10,15

because 1+2=3 3+3=6 6+4=10

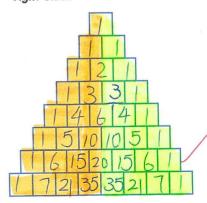
10+5=15 ,etc.

The fourth diagonal are tetrahedral numbers

* tetrahedral numbers are figurate numbers that represents a pyramid with a triangular base and three sides. The first ten tetrahedral numbers are: 1, 4, 10, 20, 35, 56, 84, 120, 165, 220

Symmetrical

The numbers of the triangle are symmetrical. The number on the left side are same as the one on right side.



Reflection:

I think this book is easy understanding. It use simple words to explain everything. At first, I think this set of number must be very boring. But after reading these detail explanation, I found this triangle useful and interesting. I have surf on the internet for further information after reading the book because I am interest in this topic! I recommend this book to others because it is funny and it won't be boring. It can also extend our mathematical knowledge.

Interesting discovery!