



## Web Links for Counting with Binomials, June 2023

### Pascal's Triangle

Some Number Patterns (PJ)

<http://jwilson.coe.uga.edu/EMAT6680Su12/Berryman/6690/BerrymanK-Pascals/BerrymanK-Pascals.html>

Sierpinski Triangle

[https://en.wikipedia.org/wiki/Sierpiński\\_triangle](https://en.wikipedia.org/wiki/Sierpiński_triangle)

### Calculators

Filling Pascal's Triangle by a given number of rows (PJ)

<https://www.calculatorsoup.com/calculators/discretemathematics/pascals-triangle.php>

Calculating binomial coefficients given  $n, k$ .

<https://www.omnicalculator.com/math/binomial-coefficient>

### Catalan Numbers

Some aspects

<https://brilliant.org/wiki/catalan-numbers/>

Catalan Numbers in Pascal's Triangle

<https://www.cut-the-knot.org/arithmetic/algebra/CatalanInPascal.shtml>

<https://aperiodical.com/2022/02/numbers-and-number-patterns-in-pascals-triangle/#:~:text=It is a lovely surprise,the top of the post.>

Many formal aspects of Catalan numbers (and OEIS)(a public talk)

<https://math.mit.edu/~rstan/transparencies/china.pdf>

### Printable Graph Paper

[https://www.google.com/search?client=safari&rls=en&q=graph+paper+printable&tbm=isch&chips=q:graph+paper+printable,g\\_1:1cm:gu4kJE5d4cU=&usq=A14\\_-kSDPYHfnS1pA5\\_-IJEI3ARgrAa53g&sa=X&ved=2ahUKEwj24qyy\\_LH\\_AhWgRWwGHXVfClcQgloDKAF6BAgSEBU&biw=1280&bih=723&dpr=2#imgrc=jv\\_zle1r\\_EZt8M](https://www.google.com/search?client=safari&rls=en&q=graph+paper+printable&tbm=isch&chips=q:graph+paper+printable,g_1:1cm:gu4kJE5d4cU=&usq=A14_-kSDPYHfnS1pA5_-IJEI3ARgrAa53g&sa=X&ved=2ahUKEwj24qyy_LH_AhWgRWwGHXVfClcQgloDKAF6BAgSEBU&biw=1280&bih=723&dpr=2#imgrc=jv_zle1r_EZt8M)