# Pascal's Triangle

The goal of the presentation is to describe some of the uses of Pascal's triangle and generalizations of Pascal's triangle. Your presentation should include

- An explanation of how Pascal's triangle can be used to calculate probabilities. A good place to start is start is

  http://math.youngzones.org/pascal_prob.html

- A description of how Pascal's triangle can be used to figure out the nth root of an integer. A good place to start is

  http://www.roma.unisa.edu.au/07305/pascal.htm

In addition, your presentation should include AT LEAST one of the following

- A discussion of the history of Pascal's triangle. Specifically including its discovery in China several hundred years before Pascal, and why it is named after him.

- We saw in class how Pascal's triangle can constructed by expanding the binomial $(x + y)^n$. What do we get if we expand $(x + y + z)^n$? What shape does it look like? What dimension is it in?

You should also feel free to expand on the above in any directions you would like (so long as they are related to the topic and not directly covered in class). If you have any questions regarding the presentation feel free to e-mail your TA or Dr. Ackerman.