Pre-Calculus 12 Pascal's Triangle

Pascal's Triangle

Row 1

Row 2

Row 3

Row 4

Row 5

binomial expansions:

$(x + y)^0 =$

$(x + y)^1 =$

$(x + y)^2 =$

$(x + y)^3 =$

$(x + y)^4 =$

Patterns

The number of terms is always _____

The first term is _____ and the last term is _____.

The exponent of the first term begins with ___ and _____ by one for each term.

The exponent of the second term begins with ____ and _____ by one for each term.

The sum of the exponents in each term is equal to _____ (the _____ of the binomial).

The corresponding terms from either end have equal _____ (except the middle term if there is an odd number of terms in the expansion).

Finding the Coefficients

Pascal's Triangle

n	$(x+y)^n$	**Coefficients**
0	$(x+y)^0$	
1	$(x+y)^1$	
2	$(x+y)^2$	
3	$(x+y)^3$	
4	$(x+y)^4$	
5	$(x+y)^5$	
6	$(x+y)^6$	
7	$(x+y)^7$	

Ex. 1) Expand, using Pascal's Triangle

a.) $(x+y)^7$

b.) $(3x-1)^4$