

Pascal's Triangle

Binomial Expansions

Expand and simplify each of the following powers of $(x + y)$:

$$(x + y)^0 =$$

$$(x + y)^1 =$$

$$(x + y)^2 =$$

$$(x + y)^3 =$$

$$(x + y)^4 =$$

Examine the coefficients of the terms for each expansion. What do you notice?

Examine the variables and exponents in the expansion of $(x + y)^3$. What pattern do you notice?

Predict the expansion of $(x + y)^5$ using the above observations.

The expansion of $(x + y)^n$ is of the form...

where the coefficients of each term correspond to...

Ex 1: Expand each of the following:

a) $(2x + y)^5$

b) $(3x - 2y)^6$