Binomial Theorem Expansion

Today's Standard

HSA.APR.C5 - (+) Know and apply the Binomial Theorem for the expansion of (x + y)^n in powers of x and y for a positive integer n, where x and y are any numbers, with coefficients determined for example by Pascal's Triangle.

Cues	Notes
Binomial Theorem	The Binomial Theorem provides a formula for expanding (x + y)^n.
Pascal's Triangle	Pascal's Triangle is used to determine the coefficients in the expansion.
Polynomial Expansion	Each term in the expansion follows the pattern: coefficient * x^(n-k) * y^k.
Coefficients	Coefficients are found in Pascal's Triangle, not always 1.
Powers of x and y	The powers of x decrease while the powers of y increase in each term.

Summary

The Binomial Theorem allows for the expansion of binomials raised to any power, using coefficients from Pascal's Triangle and a specific pattern for the powers of x and y.