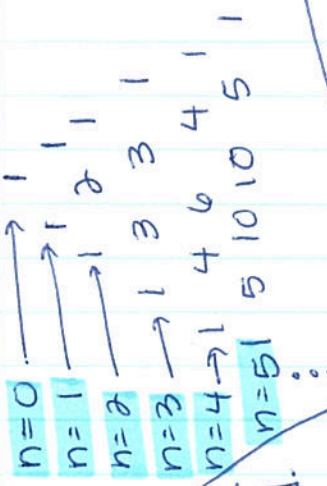


PASCALS TRIANGLE



BINOMIAL EXPANSION

- $(a+b)^n$, $n = \text{whole \#}$
- ① There are $n+1$ terms
 - ② Coefficients are the numbers from the n^{th} row of Pascal's Δ .
 - ③ The exponent of "a" is n on the first term & decreases by one each successive term
 - ④ The exponent of "b" is zero on the first term & increases by one each successive term.
 - ⑤ The sum of each of the exponents of any term is n .

EXAMPLE

Expand $(y-3)^4$ $a=y$ $b=-3$
 * use coefficients from row 4 of Pascal's Δ (14641)
 $1y^4(-3)^0 + 4y^3(-3)^1 + 6y^2(-3)^2 + 4y^1(-3)^3 + 1y^0(-3)^4$
 $1y^4 + (-12)y^3 + 6y^2(9) + 4y^1(-27) + 81$
 $y^4 - 12y^3 + 54y^2 - 108y + 81$

6.2 MULTIPLYING POLYNOMIALS

MULTPLYING

EX $3x^2(x^3+4)$
 $3x^5 + 12x^2$

EX $(x-2)(1+3x-x^2)$

$$\begin{array}{r} -x^2 + 3x + 1 \\ \cdot \\ x - 2 \\ \hline 2x^2 - 6x - 2 \\ 3x^2 + 1x + 0 \\ \hline -x^3 + 5x^2 - 5x - 2 \end{array}$$