**Binomial Theorem**

Pascal’s Triangle Binomial Expansion

(a + b)0 =

(a + b)1 =

(a + b)2 =

(a + b)3 =

(a + b)4 =

What do you notice about the expansions of (a + b)n?

* The simplified expansions have \_\_\_\_\_\_\_ terms.
* The exponents of ‘a’ start at a value ‘n’ and \_\_\_\_\_\_\_\_\_ by one for each successive term until it is reduced to 0.
* The exponents of ‘b’ start at a value 0 and \_\_\_\_\_\_\_\_\_ by one for each successive term until it reaches ‘n’.
* The coefficients in the simplified expansion are identical to the elements of \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ in row n; the first and last coefficient is always 1.

Additionally,

**Examples**

Use Pascal’s triangle to expand the following binomials:

a) (x + 2y)4

b) (-3x + 2y)3

c)

Homework: Expand the following.

a)  b) c) d)

+ pg 466 #1, 2ab, 3ab, 4ab, 5ab, 6a, 10