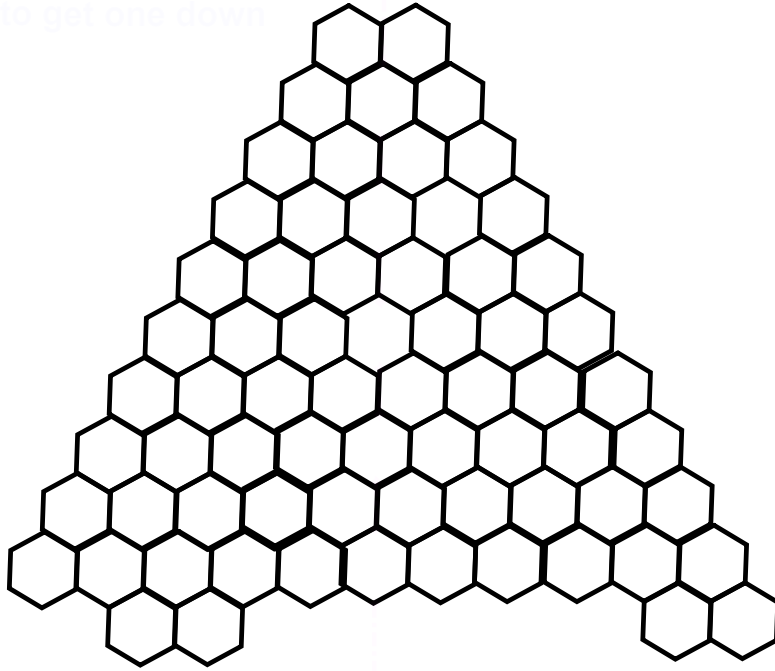


# Pascal's Triangle

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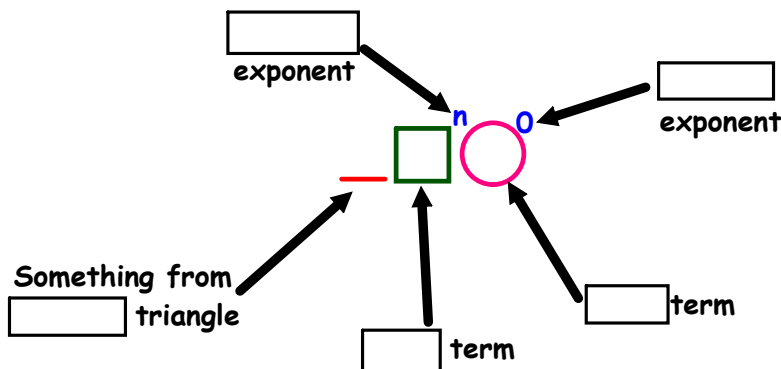


# Binomial Expansion

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This is a short cut for a LOT of work.  $(\square + \bigcirc)^n$

$-\square^n \bigcirc^0$  ← This is what our standard  $\square$  looks like.



## Binomial Expansion

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Example  $(2x+y)^5$  The front term is   
 the back term is   
 $n =$  the fifth row of P's Triangle is



$$-\square\square + -\square\square + -\square\square + -\square\square + -\square\square + -\square\square$$

## Binomial Expansion

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Now you try one  $(3x+2)^4$  The front term is   
 the back term is   
 $n =$  the \_\_\_\_\_ row of P's Triangle is

$$-\square\square + -\square\square + -\square\square + -\square\square + -\square\square$$

But what happens when you are expanding something like  $(x+y)^{18}$  and want the 3rd term. Well you can build the P's triangle out to the 18<sup>th</sup> level or... you can use a handy duty "short" cut to find the coefficient.