Pascal's Triangle.   Class _____ Name _____

The standard Pascal's triangle looks like this: And it represents the coefficients of $(A+B)^n$ as follows:

$$1$$
$$1 \quad 1$$
$$1 \quad 2 \quad 1$$
$$1 \quad 3 \quad 3 \quad 1$$
$$1 \quad 4 \quad 6 \quad 4 \quad 1$$
$$1 \quad 5 \quad 10 \quad 10 \quad 5 \quad 1$$

(etc)

$(A+B)^0$	$= \quad 1$
$(A+B)^1$	$= \quad A+B$
$(A+B)^2$	$= \quad A^2+2AB + B^2$
$(A+B)^3$	$= \quad A^3+3A^2B +3AB^2+B^3$
$(A+B)^4$	$= \quad A^4+4A^3B +6A^2B^2+4AB^3 + B^4$
$(A+B)^5$	$= A^5+5A^4B +10A^3B^2+10A^2B^3 + 5AB^4 + B^5$

Notice how each pair of numbers

(Above to the left) + (Above to the right)

add to the entries in the triangle.

Example: 4+6 = 10,   in row #4 and row #5.

Exercise: Using these facts, QUICKLY write the expanded versions of each power polynomial below:

	Problem	Answer
1	$(x+1)^4$	
2	$(y-z)^5$	
3	$(2x+3)^3$	
4	$(3x+y)^3$	
5	$(10+2)^4$	
6	$(10-2)^3$	
7	$(2x+w)^6$	